RETHINKING THE WORK SPACE

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SUMMARY

The idea of the open plan workspace has been a popular model for office design since the 1960's. The openness was thought to encourage collaboration and group thinking while also allowing for more supervision and a more flexible space overall. This model, however, is too instrumental. It neglects the fact that the modern workplace is a setting not just for work but where we spend a significant part of our public life. We enact presentations of self in the workplace, enter into planned and unplanned transactions, forge networks, create group identities, and at times withdraw from the public eye for contemplative work and for refuge. In the open-plan model, every activity becomes a 'front stage' activity where people always feel as if they are constantly putting on a performance. The model does not adequately address other needs. This holds particularly true in the creative professions where more seclusion is needed in order to produce innovative ideas.

This thesis offers a new model to think about the workplace by taking the school of architecture as an example. The work is in two parts. The first, an analytical study of 10 schools, drawn from a larger sample of 26, shows that despite many innovations in form-making, schools of architecture have followed this model of the open plan workspace closely, particularly in the way studio spaces are designed. As a result activities like enactment of self, expression of identities, negotiation and encounters, and withdrawal from social life happen in ad hoc and re-purposed spaces.

The second part offers a design response to this condition by proposing an intervention for one of the most well known schools of architecture and one that embodies a logically extreme version of the open plan idea, Crown Hall. This intervention, which proposes radical changes to

the interior organization of Crown Hall while respecting its conceptual form and broad design intent, illustrates how a modern workplace can offer a space that allows the full complexity of the drama of daily life to enfold in a workplace setting.

CHAPTER 1

INTRODUCTION

The Georgia Tech College of Architecture's Hinman building provides the main working spaces for the graduate students within the school of architecture. This is where I have spent much of my time over the past few years, but I would say the working environment is not one that I would typically choose to work in. Many of my colleagues are of the same opinion.

The Hinman building is a newly renovated historical structure that was originally built in the early 1940's as a research facility for the campus. Its renovation and preservation has received many awards since its completion in 2011, yet I find that those who make use of the building the most – the students – are typically dissatisfied with the working environment the building currently provides. The large, open studio space is filled with rows of desks to accommodate all levels of architecture graduate students and includes jury and pin-up spaces along its perimeter walls. This single space has become a space that accommodates many different types of activities throughout a typical day within the school of architecture, including desk crits, group and individual pin-ups, studio reviews, model making, socializing, designing, and other forms of production work. Students complain that during studio times, the noise in this space is too loud and hinders any kind of concentration that may be required during the design process. Noise along with the lack of privacy and bad lighting makes for a space that is not conducive to all of the kinds of work that students do on a regular basis. This may be one of the reasons why most students choose to work from other locations outside of – and even during – studio times. Some may choose to work in the computer lab, at the architecture library, or from the comfort of their own homes. The technologies of today allow for the portability of work,

which gives students the opportunity to choose and work from locations that are more suitable for doing the kind of work they need to get done. If the school does not provide these suitable working conditions, the studio culture becomes almost non-existent, which seems to be the case in the Hinman Building at Georgia Tech.

Despite what the majority may think, however, there are several students who try to make the best of this space through the personalization of their desks and the surrounding areas to better accommodate their needs and to establish some sense of identity within such a large space. These students may set up a kind of makeshift kitchen with a small refrigerator and microwave and may have some snacks they keep there for those long nights in studio. This space they create for themselves is like a home away from home. If more students were able to make use of the space in the same way, the studio culture would become a strong defining force within the school of architecture. Students would have a better opportunity for networking, getting more involved with each other's work and creating strong bonds with others. So much is being lost when the working environment does not properly accommodate for the needs of those working within that environment.

CHAPTER 2

THE WORKSPACE AS A BUILDING TYPE

What is a school of architecture? It is essentially a workplace for students. Comparable to a typical workplace meant for the production of goods and services, a school of architecture is where architecture students spend a majority of their week assembled together within the same building doing various types of activities while they all work towards a similar goal. This comparison is crucial in understanding how schools of architecture as a building type came to be.

2.1 Separation of the Space of Living From the Space of Working

In ancient Greece, the realms of the private and public coexisted in each house within the city. The more private spaces would be located deeper into the house where the women and slaves would conduct the day-to-day necessities of life; the public and more political spaces were located at the front of the house where the men would greet their guests and carry out their daily business. It was not until the modern era when there was seen an emergence of society into the public realm. Through society, as Hannah Arendt describes in her book *The Human Condition*, "it is the life process itself which in one form or another has been channeled into the public realm."[1] The Modern Era, then, is responsible for deprivatization of the day-to-day activities of life. Arendt goes on to say, "Perhaps the clearest indication that society constitutes the public organization of the life process itself may be found in the fact that in a relatively short time the new social realm transformed all modern communities into societies of laborers and jobholders;

[1] Hannah Arendt, *The Human Condition* (Chicago: University of Chicago Press, 1958) 45.

in other words, they became at once centered around the one activity necessary to sustain life."[2] That one activity as seen today is work. Almost every member of society has some sort of job doing work in order to make money to provide the basic necessities of life to themselves and their families. As a result of this beginning to be seen in the Modern Era, new building types soon emerged to accommodate for this type of centralized work.

People were still working from their homes until about the middle of the 18th century when the centralization of single processes were starting to be seen that required employed labor. Some business owners would run a small shop from their homes in the earlier days, but the introduction of new, more efficient methods of production demanded more space and more workers. The first building type that came as a result of this was the mill. Workers were assembled in a single space to allow for supervision in order to achieve maximum efficiency, making sure no time was wasted on the job.[3] This was the first instance of the workspace being separated from the space of living.

In the 19th century, the factory system took precedent from the first mills and grew exponentially in America. Initially, factory towns were developed in order to keep the workers' places of living close to the factory, so a minimal amount of production time would be wasted as a result of the workers' travel from home to work. When factory owners realized they would be made liable for any poor living conditions associated with living within such a close proximity to the factory, they started to encourage workers to move further out from the factory, which resulted in an even more dramatic separation of the workplace and living space.[4]

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[2] Hannah Arendt, *The Human Condition* (Chicago: University of Chicago Press, 1958) 46.
[3] Thomas A. Markus, *Buildings & Power: Freedom and Control in the Origin of Modern Building Type* (New York: Routledge, 1993) 262.
[4] Edmund P. Fowler, *Building Cities That Work* (Montreal: McGill-Queen's University Press, 1992) 197.

2.2 The Office Space as a Type

The office space as a building type is similar in many ways to the factory, and can be seen as being a result of the factory. According to Francis Duffy, "The office exists directly as a consequence of the managerial changes that occurred in the western world at the end of the nineteenth century when it became both possible and necessary to exercise control over manufacturing and distribution through accumulating and manipulating large amounts of information."[5] Frederick Taylor's ideas on efficiency in industry became popular during the Progressive Era in the United States. Taylorism was partly responsible for the dehumanization of work in the factory, and later on, in the office. It stressed that people are managed best when they are treated as robots, and supervision of all workers was necessary because people could not be trusted on their own. The open office space that assembled workers into a single space is a product of these ideas, and even though today Taylorism is no longer taken seriously, these types of spaces that came as a result are still being replicated today in office design.[6] Taylor's influence has had such a great impact on the design of office spaces that it has created a barrier for the introduction of new ways of working in the workplace in America.

In Europe, office spaces were of a different type than what was seen in North America. While in North America new office buildings were being built, all of a similar form, in Northern Europe, most of the cities were old and mostly settled with already set identities long before the idea of the office came into being. Even when the office idea came to the scene, the European economy did not place such high importance on office buildings as did America, which led to a great difference between the office building as a type in Europe compared to America. The European office buildings tended to be more low-rise and often were not located at the city

[5] Francis Duffy and Ken Powell, *The New Office* (London: Conran Octopus, 1997) 14.
[6] *Ibid.,* 17.

center. Along with a few other physical differences, the key difference was that the design of the offices of Northern Europe were more influenced by the wishes of the office workers rather than being more corporate in style like their North American counterpart. The office model set by Northern European cities during this time was not as influential as that of North America, but, as Francis Duffy says, "it presents a dramatically different view of what office design could and should be like, and has created the highest quality of office environment in the world."[7] It was not until the 1960's when there came a revolution in the way offices were designed. The large, open-plan landscaped offices became popular as a response to make the office space more accommodating to the new types of communications and processes taking place in offices at the time.[8]

More recently in America, the idea of collaboration and group thinking has become popular. Open office spaces are more popular now than ever. Even schools are beginning to embrace the idea of collaborative learning and are preaching that students gain more from their education when they are forced to collaborate with their classmates. But studies show that people are less productive when they are forced to collaborate, particularly when it comes to professions and activities that require creativity. Susan Cain stresses the importance of individual thinking and describes the issues related to group thinking and collaboration in her book *Quiet: The Power of Introverts in a World That Can't Stop Talking*. She describes how working in groups can result in 'social loafing' – the idea that, in a group, only one person can talk at once while others sit passively; this, in combination with the fact that some people may not contribute in a group because of the fear of being publicly humiliated, can result in a large amount of time being wasted. Not only this, research shows that one's brain activity changes when working in a group;

[7] Francis Duffy and Ken Powell, *The New Office* (London: Conran Octopus, 1997) 34.
[8] *Ibid*., 35.

people are more likely to conform to what their group members say and think, even if what they say is wrong or not the best solution to the problem needing to be resolved. Companies and schools just assume that the more collaborative the environment, the better it is for everyone. The fact is, however, that people require some level of privacy in order to concentrate and generate higher quality ideas. An example of this was seen in 2000 when Reebok International was planning to consolidate 1250 of its employees at its new headquarters in Canton, Massachusetts. The managers assumed that the employees would want offices that encouraged more collaboration through providing more access between each of the offices. When the managers asked the shoe designers what they wanted out of their new office space, however, they were surprised to find that the shoe designers said they needed an office that allowed for more peace and quiet so they could concentrate.[9] This shows just how misconstrued the perceptions of those creating these open, collaborative spaces have been. In order to create more accommodating spaces for the different types of work, the different daily needs of the people must be considered.

[9] Susan Cain, *Quiet: The Power of Introverts in a World That Can't Stop Talking* (Random House Audio, 2012).

CHAPTER 3

RETHINKING THE IDEA OF THE WORKPLACE

Schools of architecture in the United States have closely followed the model of the office workplace as a type. But that model is one-dimensional and unsatisfactory; it focuses mainly on allowing flexibility in regards to placement and choosing of desks within a large, light-filled room. Seeing as how people spend so much time within the workplace throughout the week, especially architecture students within the studio, it makes sense to think of the workplace as not only a place for working, but instead, a place that should accommodate for all activities included in day-to-day life; this would better suit the needs of all those working within these spaces. In order to design a new space type that does just this, it is necessary to identify the different types of activity that happen within a workplace throughout a typical day.

3.1 Presentation of Self

Within the workplace, one can see several different categories of activities occurring. Since all of these activities exist within the public realm, they are all related to the idea of "presentation of self," which Erving Goffman talks about in his book *The Presentation of Self in Everyday Life.* This idea, as Goffman puts it, "is the way in which the individual in ordinary work situations presents himself and his activity to others."[10] Goffman relates it to performers at a theater or waiters at a restaurant; these people must display a certain type of character, more composed and professional than what would typically be seen from them "behind the curtains."

[10] Erving Goffman, *The Presentation of Self in Everyday Life* (Garden City, N.Y.: Doubleday, 1959) preface.

When they are engaging in ‘front stage’ activities, they are presenting themselves differently than when they are in a more relaxed environment during ‘back stage’ activities where there is a less critical audience. All activities happening within the workplace can be classified as either a ‘front stage’ or ‘back stage’ activity, yet there is currently almost no differentiation between the spaces that accommodate these different activities. This is where the problem lies. The inefficiencies of the open workspace can be resolved by introducing more differentiation between spaces where these different activities occur.

These ‘front stage’ and ‘back stage’ activities can be further analyzed through the lenses of individual level needs and group/social level needs. Individual level needs would consist of activities related to withdrawal and privacy, the establishing of one’s identity, and engaging with others. The group/social level needs includes the creation of socially intelligible environments where activities such as production, teaching and learning, and presentations take place. All of the individual needs tend to fit within the ‘back stage’ activity type category while the group/social needs are typically ‘front stage,’ although production is more ‘back stage’ in nature. In creating these socially intelligible spaces, a stronger sense of propriety is introduced. Certain activities are accommodated only within the appropriate spaces, as opposed to having ad hoc spaces within a larger space created to accommodate these activities, which is seen often within the workplace.

In order to further understand what activity types are not being properly accommodated within the workplace, it is important to look at each in more detail.

3.2 Withdrawal

Places for 'back stage' activities are necessary for all people during a typical day, yet they seem to be the least accommodated for in most workplaces; although there are multiple activities that can be included in the 'backstage' type, all focus on the idea of withdrawal from the public eye. Schools of architecture and workplaces in general today stress the importance of large open spaces to allow for collaboration. The idea is that with these open floor plans, those working within the space can be engaged with others and more easily be inspired by what they see and what their peers have to say. The fact is, however, that open spaces like these are not conducive to all types of work. Collaboration is important to an extent, but when it comes to creativity, it is important to provide the workers with spaces of retreat where they can go to focus to get their creativity flowing. Being away from the public eye – or 'back stage' rather than 'front stage' - allows one to be more relaxed and to focus on the work at hand instead of having to worry about how they are presenting themselves to others. This is especially important for the more introverted people who are highly reactive to environmental stimulations, whereas their extroverted counterpart is not bothered as much by what is happening around them.

Solitude has been proven to be beneficial for all types of people in the working environment, however. Research done by the company Steelcase – designers of furniture, interior architecture, and products of technology to service corporate offices – shows that while working in an open office, "on average workers are interrupted every 11 minutes. When interrupted, it can take anywhere between 23-25 minutes to get back into the flow."[11] Too much openness can lead to too many distractions, which can hinder productivity. This is why it is important architecturally for there to be private spaces where individuals can work. These spaces

[11] "Susan Cain Quiet Spaces." *Steelcase*, Web. 09 Feb. 2015. < http://www.steelcase.com/quiet-spaces/#insights>.

of withdrawal can also contribute to another activity type that is an important day-to-day activity, and that is the establishing of one's identity.

3.3 Establishing of Identity

Various acts can be done by an individual in order to establish one's identity within the workplace, and one of those is the personalization of space. If each worker has his/her own personal space, they will more often than not choose to personalize it in some way or another. This can be done by simply storing one's personal items within the space, or going so far as to intentionally fill the space with items that express who one is as a person in order to visually show others. Even in open workspaces, it is typical for a person to somehow personalize their own desk, maybe by putting family pictures up or displaying paraphernalia of their favorites sports team or movie memorabilia. Doing this not only establishes one's identity within the workplace, but it also gives the individual a sense of belonging, knowing that there is a special place within the workplace they can call their own. For a person to feel comfortable working within a space, they must have this freedom to personalize their space in this way. In open plans, desks are typically given to individuals, but if instead these personal spaces can be created architecturally, people would be more willing to stay in these spaces for longer periods of time. Just as in a house, one's bedroom is a place of retreat and also for the establishing of one's identity. Both of these activity types (withdrawal and establishing of identity) being accommodated through one type of space is natural in the home setting, and is therefore a type of space that people find more comforting to work in.

3.4 Engaging With Others

Engaging with others is another important individual need-related activity that happens throughout a typical day in the workplace and in schools of architecture. Chance encounters and interaction with others within and outside of the studio and classroom are important in creating lasting bonds between people that may later carry on into the professional world or when one switches jobs. The networks that are created as a result can lead to client referrals and future job opportunities, among other things. In the architecture world, especially, the connections you have are really what determine your future, so it is quite important that there be a space designed to create these networking opportunities – spaces that are more casual apart from the main working spaces. This could include lounge spaces that are located close to a main path of circulation or a café of some sort. These would be in addition to the spaces of production and learning that already provide opportunities for networking by encouraging people to gather together in one space.

A general awareness of others comes with this idea of engaging with others, but in a more indirect sense. People are always curious to see what others are doing and working on in the workplace. It is important for people to be able to see the achievements of their colleagues and employees in order to learn from and to gain inspiration from those working towards similar goals. This is particularly important within schools of architecture.

In the design world, designers are constantly borrowing ideas from others to create works of their own. Designers feed off the talent of others, so allowing students to do this within design schools is necessary in order for them to gain the most out of their education. This can be done by simply providing spaces for students to watch as others present their work. Windows and openings that allow views into production spaces and other less private spaces can provide other

students an faculty with the opportunity to see what others are doing up to the final presentation, also. Just being able to see that your colleagues are busy working towards a similar goal is encouraging and helps to create a bond among the students. Exhibition spaces can also provide awareness of others, but in an even more indirect way, since the work being shown is final presentation material and typically no one is presenting it while it is being viewed. This can still be a way for students to gain inspiration from their peers, however.

3.5 Creating Socially Intelligible Spaces

Within the office space and schools of architecture of today, large open spaces serve multiple functions, which often challenges the idea of appropriateness of certain activities within certain areas. Although activities such as production, teaching and learning, and presenting one's work can all take place within a fairly open space, it is not wise to try to accommodate all of these activities within the same space. Some activities would not be appropriate within some areas of the large space. For instance, spaces of production would not be appropriately situated within a main path of circulation or at the main entrance to the large space, just as a kitchen would not be located at the front door of a house. This goes back to the idea of 'front stage' versus 'back stage.' Production would be a 'back stage' activity, in this case, meaning it would not be appropriately accommodated within an area that is more 'front stage' in nature.

In some cases, a large open space can be utilized in such a way that accommodates multiple groups at once engaging in separate activities. These groups create their own boundaries within the space and respect those boundaries, which results in the creation of socially intelligible spaces. In large spaces, these are created by distance between groups. In order to achieve maximum efficiency within a space, therefore, it would be wise to introduce more

differentiation and clearer boundaries so there is not as much underutilized space. One way to do this architecturally is through the introduction of walls, both solid and those with varying transparencies. Many offices and schools of architecture tend to provide differentiation within a large space through gradual level changes, but this does not allow for the degree of differentiation needed for the most efficiency.

3.6 Conclusion

The various activities happening in a typical day could easily be accommodated via the architecture of the workplace. This would make the workplace a more comfortable environment to work in and would most likely improve the creativity and productivity of the people working within those spaces. Instead of people working from home, they would be more willing to work in the new workspace. For schools of architecture, in particular, this would be important in strengthening the studio culture, which seems to be lacking in many schools currently. Thinking of the workplace as a place where people carry out their day-to-day lives instead of simply looking at it as a place for work would greatly impact the working world, making workers happier, providing more opportunities for networking, and ultimately improving the output of the workers.

CHAPTER 4

SCHOOLS OF ARCHITECTURE

Schools of architecture share a similar history to that of office spaces in that America was the first to create a new space type for architectural education. Education in the field of architecture began in Europe, however, in the form of apprenticeships: students would work alongside professionals for a majority of their education. Architectural clubs would later sponsor established architecture schools, such was the case at the Architectural Association in London. In other cases, the schools were located within arts and crafts schools and academies of fine arts, such as the École Des Beaux Arts. Even the Bauhaus design was originally a school of fine arts and did not include a department of architecture, although one would later be incorporated. Many schools of architecture in Europe today still are housed within another institute and are not stand-alone.

Formal education in the field of architecture began in America after the Civil War. Architectural education was beginning to be seen more and more in universities in an attempt to "upgrade the social rank and intellectual competence of architects," since a majority of the practicing architects in America came from a background in the building trades and did not necessarily have a proper knowledge of design and building science.[12] The idea was that providing architects with a liberal education "would enable architecture to acquire a status and level of compensation closer to the better organized professions of law and medicine."[13] The university school of architecture is an American invention, although the founder of the first

[12] Jack L. Nasar, Wolfgang F. E Preiser, and Thomas Fisher, *Designing for Designers: Lessons Learned From Schools of Architecture* (New York: Fairchild Publications, 2007) 11.
[13] *Ibid.,* 11-12.

school of architecture at MIT, William Robert Ware, spent two years studying architectural education programs in Europe and modeled his American version to match that of the Germans, which focused more on classroom training of engineering and history, as opposed to the French Beaux Arts model that focused primarily on design. Several other new schools of architecture in America would follow this same model.

In 1890, however, a different architecture program model was established at the University of Pennsylvania. The department was housed on the second floor of an existing building on campus, College Hall, designed by Thomas Richards. One large room was made available for the program, and this space was to serve mainly as a drafting space. Within this one room, multiple classes of students at different levels were accommodated. The cross-level interaction that occurred within the space allowed the younger students to learn from and become more engaged with the work of their more experienced peers.[14] This is one of the first examples seen in America where the importance of the large, open studio space is experienced, leading it to become the main focus within future schools of architecture.

4.1 A Sample of Schools of Architecture

In order to further investigate the characteristics of schools of architecture seen today, a sample of about 30 schools of architecture was taken, which includes schools designed within the past century. Most of the schools chosen for analysis were located within America, but several chosen were located outside of America to provide for comparison. Figure 4.10 shows how each of these schools compare in regards to several characteristics such as the design intentions of their designers, the location of the studios in relation to the rest of the program

[14] Jack L. Nasar, Wolfgang F. E Preiser, and Thomas Fisher, *Designing for Designers: Lessons Learned From Schools of Architecture* (New York: Fairchild Publications, 2007) 31.

types in the school, and the overall organizational type. When it comes to the organizational type, it appears as though the idea of the open hall idea to accommodate the studios has been the most popular over time, particularly in the newly constructed schools in America. Even in those that do not exactly conform to the open hall form, it is still apparent that almost every school of architecture seen here is designed in a way to allow for maximum openness and visibility throughout the building. The designers of these buildings obviously used the idea of the open studio as a precedent and then focused on secondary issues, such as how to relate the studios to other programmatic spaces within the building or how to provide enough light to the studio spaces. This may result in designs of seemingly different plans and sections, but ultimately, if this sample is to speak for all schools of architecture within America, it is safe to say that all designs are simply variations on the same schema – a schema that designates the studios as being open, shared spaces and the central foci within the schools.

4.2 A Closer Look at These Schools of Architecture

In order to better support this idea, the rows highlighted in grey in Figure 4.10 indicate ten of the schools that have been selected and analyzed even further. Each was examined to determine how issues of flexibility, privacy/openness, connectivity/visibility, quality of light, acoustics, and accessibility/circulation were handled architecturally. With the main focus being on the idea of openness in plan, as seen from the larger sample of schools of architecture looked at earlier, a deeper analysis of this was done on these 10 schools in order to show how this idea is manifested within each of the plans.

School Name	Year Completed	Architect/Designer
MIT	1997	Leers Weinzapfel
University of Michigan, Art & Architecture Building	1974	Swanson Associates
Cornell, Milstein Hall	2006	OMA
SCI-Arc	2000	Gary Paige
Penn State	2005	WTW Architects
IIT, Crown Hall	1956	Mies van der Rohe
Clemson University, Lee Hall	2011	Thomas Phifer and Partners
Yale	1963	Paul Rudolph
Harvard	1963	John Andrews
CEPT	1962	B.V. Doshi
Georgia Tech, Hinman	2011	Lord, Aeck & Sargent and Office dA
SPSU Design II	2011	Cooper Carry
Virginia Tech, Burchard Hall	1998	
Florida International University	2003	Bernard Tschumi
Pratt Institute	2005	Steven Holl
Oxford Brookes, Abercrombie Building	2013	Design Engine
University of Tennessee	1981	
University of Arkansas, Fay Jones School of Architecture	2013	Marlon Blackwell Architect
University of Cincinnati, The Aronoff Center for Design	1996	Peter Eisenman
Ohio State University, Knowlton SOA	2004	Mack & Merrill
Cooper Union	2009	Morphosis
The Architectural Association	1917	
The Abedian School of Architecture	2013	CRAB Studio
Taliesen Frank Lloyd Wright SOA	1931	Frank Lloyd Wright
The Bauhaus at Dessau	1926	Walter Gropius
Tulane School of Architecture	1971 (SOA moved into building)	

Figure 4.10 *A Catalog of Schools of Architecture*

Organizational Type						
Open Hall	*Atrium*	*Corridor*	*Along Street*	*Stepped Platforms*	*"Courtyard"*	*Lobby*
		✓				
✓						
✓						
✓						
✓						
✓						
					✓	
	✓			✓		
				✓		
				✓		
✓						
✓					✓	
					✓	
				✓		
	✓					
	✓					
		✓				
			✓			
	✓					
	✓					
		✓				
			✓			
		✓				
		✓				
		✓				

Figure 4.10 (Continued)

Construction Type			Intention					
New	*Renovation*	*Addition*	*Flexibility*	*Access*	*Increased Interaction*	*Light*	*Openness*	*Visibility*
	✓							
✓							✓	✓
		✓		✓	✓		✓	✓
	✓		✓		✓		✓	✓
✓					✓	✓	✓	✓
✓						✓	✓	✓
✓				✓	✓	✓	✓	✓
✓							✓	✓
✓				✓			✓	✓
✓			✓				✓	✓
	✓		✓				✓	✓
✓								
		✓					✓	✓
							✓	✓
		✓				✓	✓	✓
		✓		✓		✓	✓	✓
✓							✓	✓
✓				✓		✓	✓	✓
✓				✓				✓
✓							✓	✓
✓				✓			✓	✓
✓								
✓				✓			✓	✓
✓								
✓						✓	✓	
	✓			✓			✓	✓

Figure 4.10 (Continued)

Location of Studios						
At Center	*Around perimeter*	*off to side*	**NOTES**			
✓						
✓			levels and floors don't match			
✓						
✓			staggered levels; crit space part of both studio levels but in between			
✓						
✓			more interaction between faculty and students; offices as studio dividers			
	✓		final product as central focus; production along perimeter			
✓			visibility vs. accessibility			
✓						
✓						
✓						
✓			shared learning experience; collaboration space at center			
		✓				
✓			stepped levels w/ ramp between creating boundaries between studios			
		✓				
	✓					
		✓				
		✓	architectural promenade; unexpected views/situations within building			
	✓		studios are slightly staggered/stepped - on same level but doesn't feel like it			
	✓					
	✓					
	✓		feeling of being on a city street where different types of interaction occur			
✓						
		✓	studios in separate building in separate rooms			
		✓	studios completely separated			

Figure 4.10 (Continued)

One of the tools used to analyze the connectivity and visual integration between the different space types on a particular level within each of the buildings was a program called depthmapX. This program takes in a floor plan that has been drawn to scale and requires the user to input a unit of measurement. A grid is then overlaid on the imported floor plan that conforms to this input unit. In this case, the unit of measurement used was 0.30 meters, which, when squared, is about the area a typical person occupies when standing. Therefore, each square in the grid can be seen as representing a position of a person within the building. After the grid has been set, depthmapX then asks the user to "paint" the areas of the plan that are walls and columns, so that the spatial analysis can be more accurate and not confuse these visual and physical barriers with occupiable spaces. Once this has been completed, the analysis can then be run. There are several types of analyses that depthmapX can run, but for this study, only the analysis on connectivity and visual integration was run on each of the 10 building floor plans. Figures 4.11 – 4.20 show the results of the connectivity analyses (visual integration analyses can be seen in Appendix B). The lighter shaded areas indicate the spaces within the plans that offer the highest degree of connectivity in relation to the rest of the building, whereas the darker shaded areas indicate the areas with the lowest degree of connectivity.

In looking at the analyses results, it appears that there are a few different variations on the studio type in regards to the degree of connectivity/openness. The first of these would include the schools of Cornell, Penn State, Yale, Virginia Tech, and the Pratt Institute, and Harvard. The degree of exposure within the studios in these schools is high enough to provide a clear distinction between the studio and other space types within the building; the studios become the central focus within these schools. The second variation type includes more variation in the

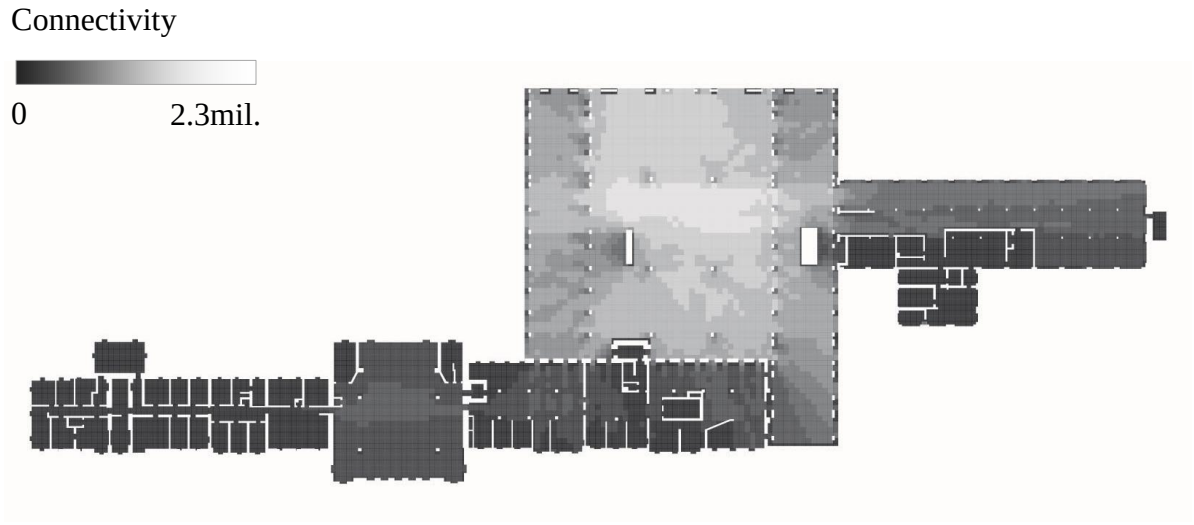


Figure 4.11 Degree of connectivity in Milstein Hall (Cornell)

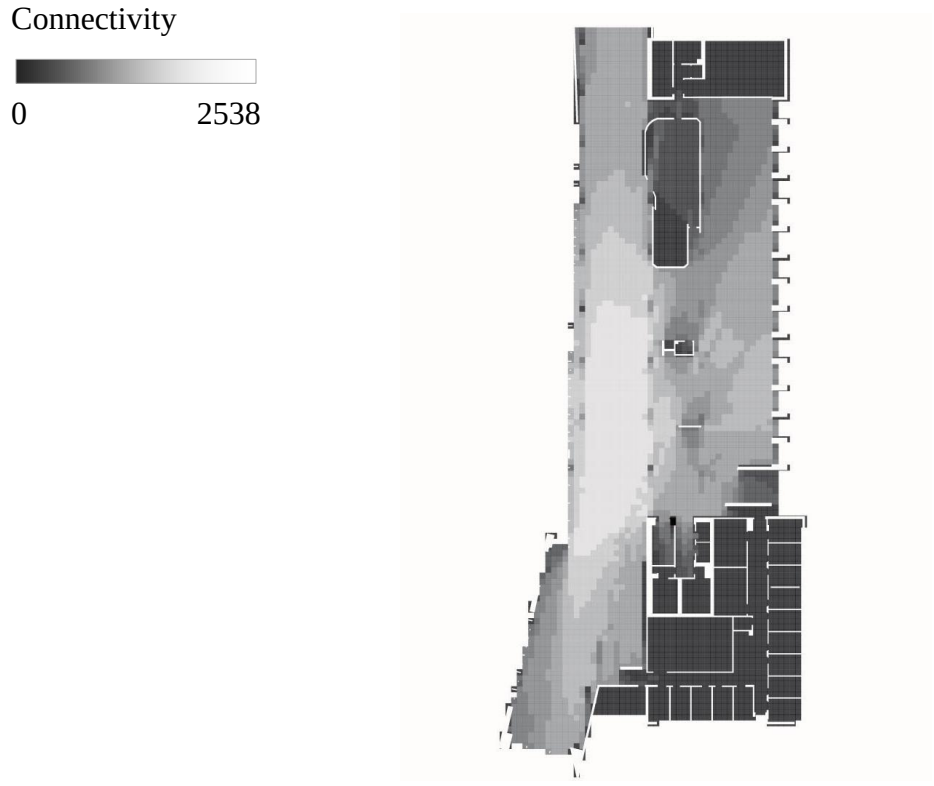


Figure 4.12 Degree of connectivity in the Stuckeman Family Building (Penn State)

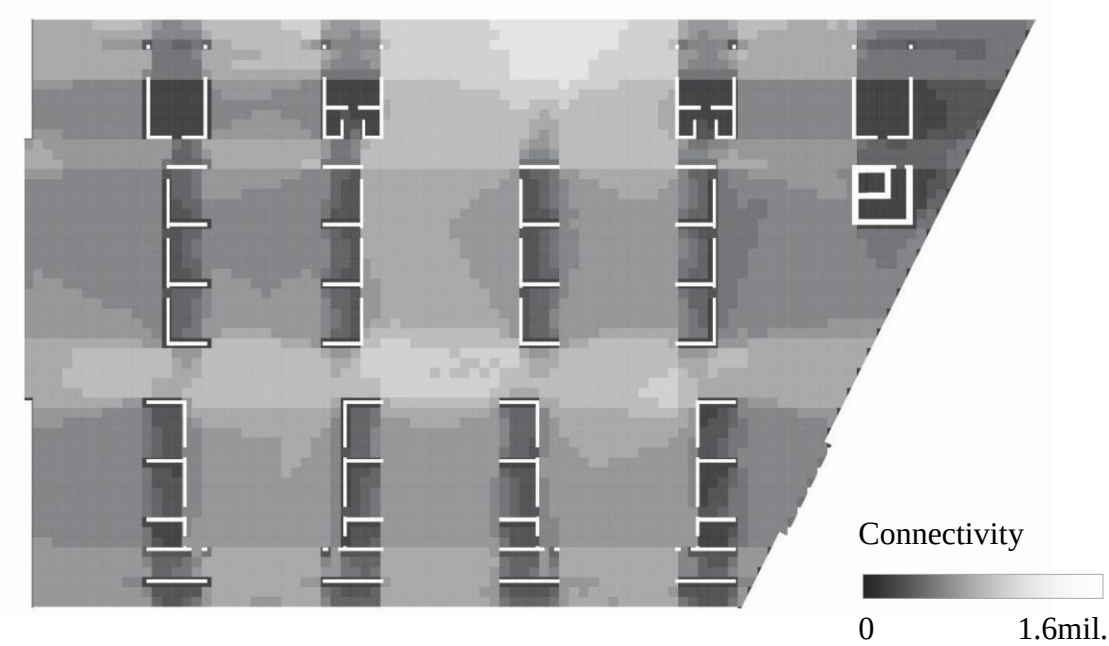


Figure 4.13 Degree of connectivity in Lee Hall (Clemson)

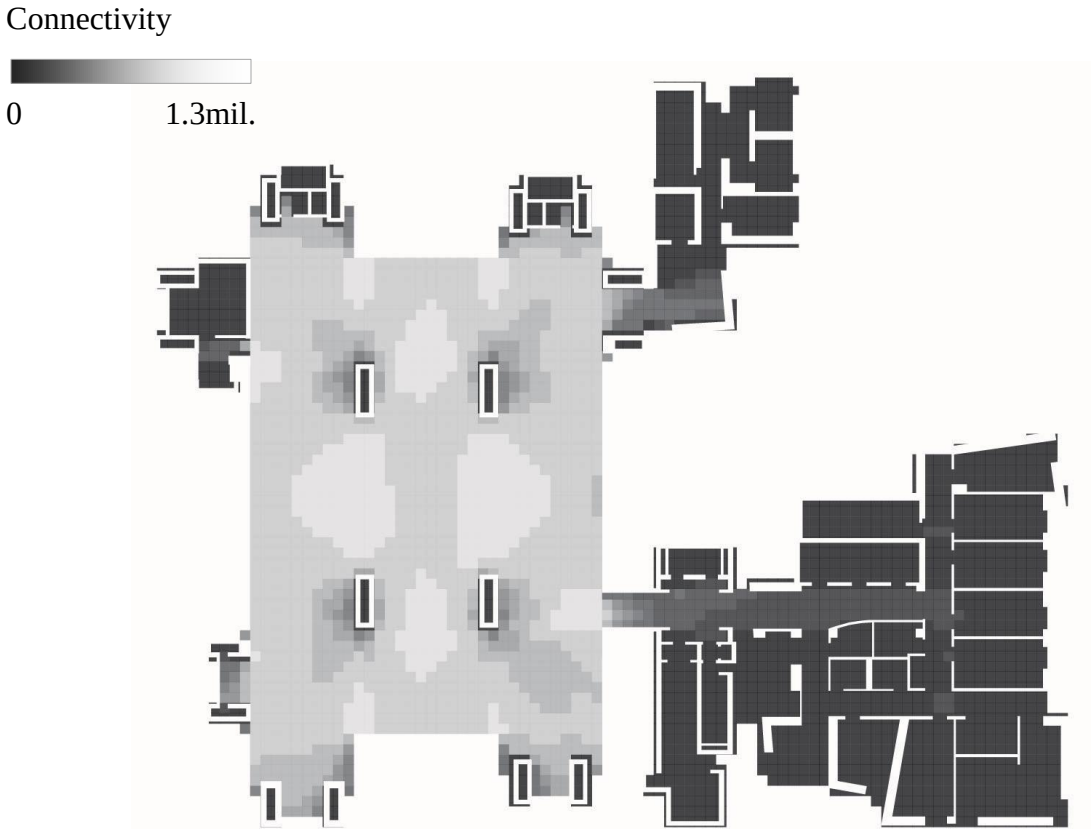


Figure 4.14 Degree of connectivity in the Art & Architecture Building (Yale)

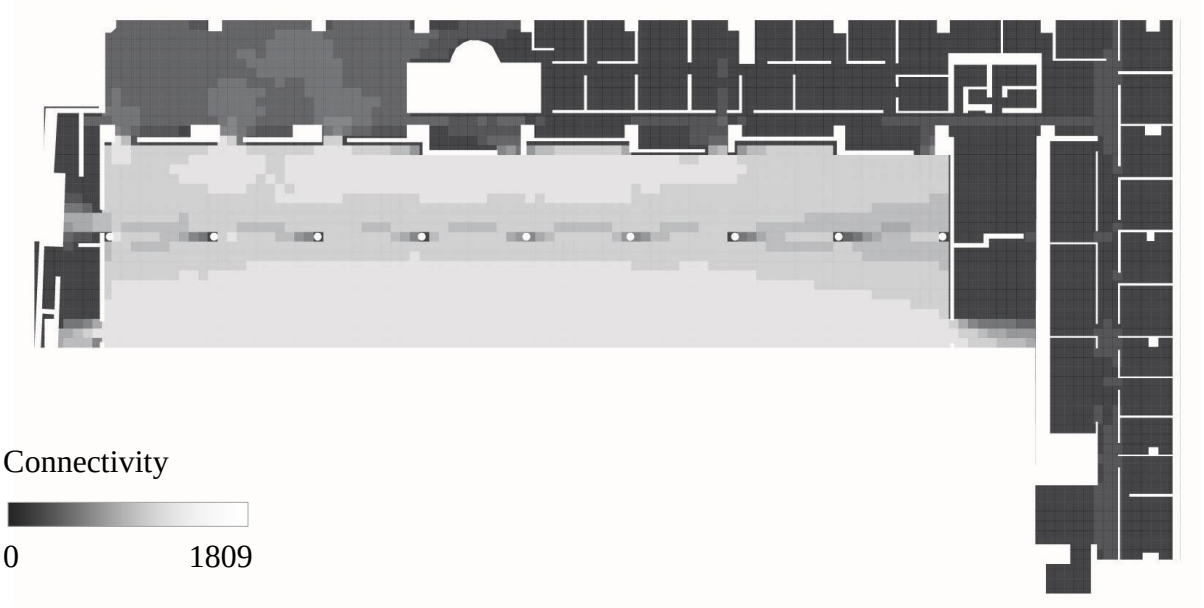


Figure 4.15 Degree of connectivity in Gund Hall (Harvard)

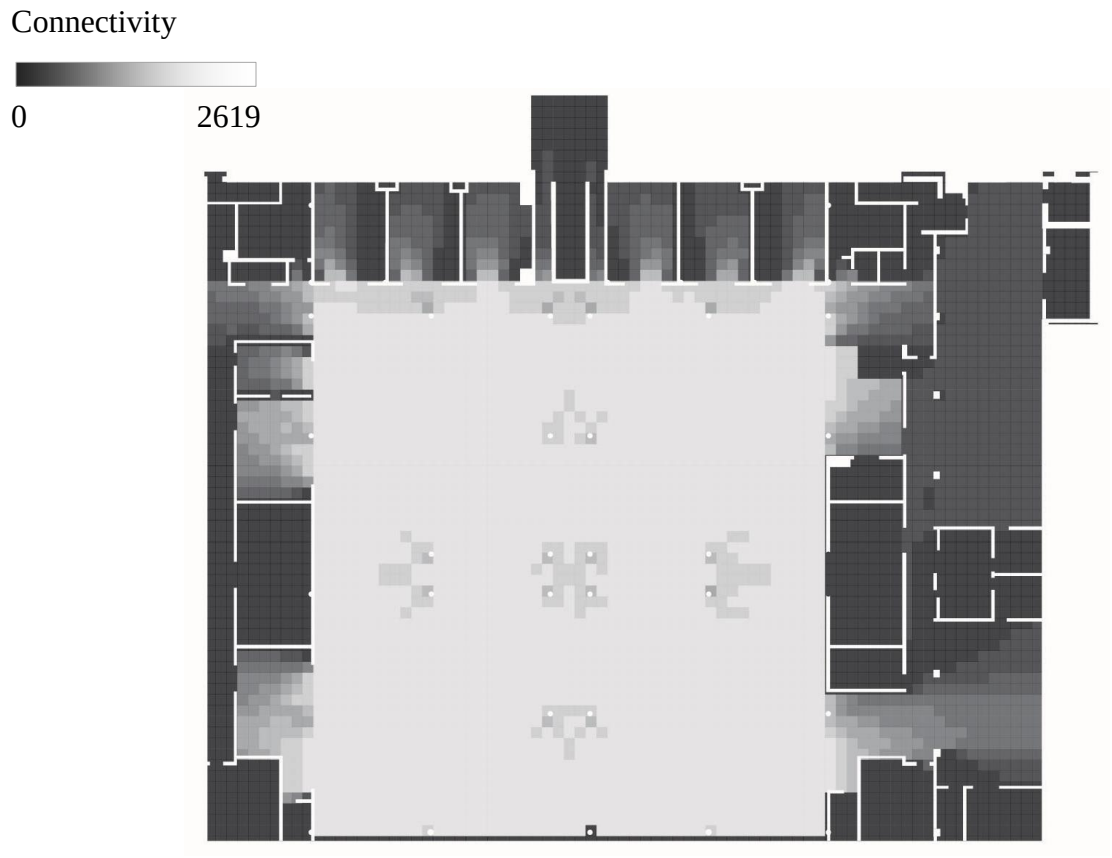


Figure 4.16 Degree of connectivity in Burchard Hall (Virginia Tech)

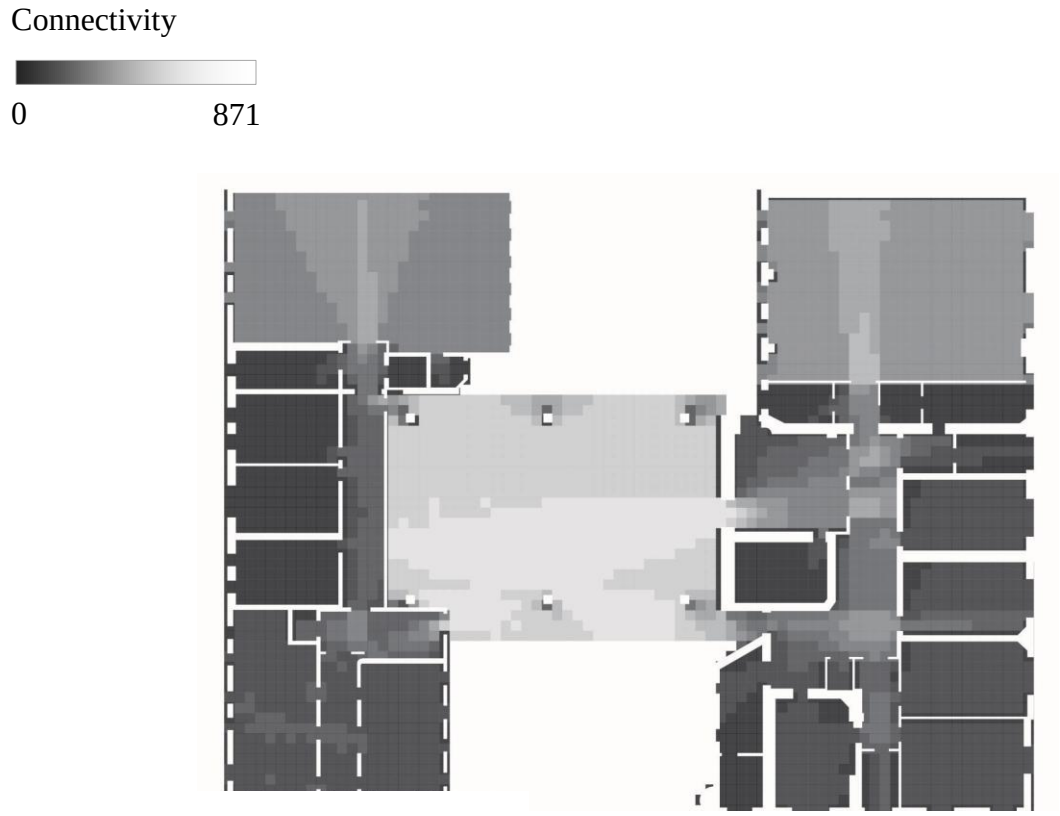


Figure 4.17 Degrees of connectivity in Higgins Hall (Pratt Institute)

Figure 4.18 Degrees of connectivity in Knowlton Hall (Ohio State University)

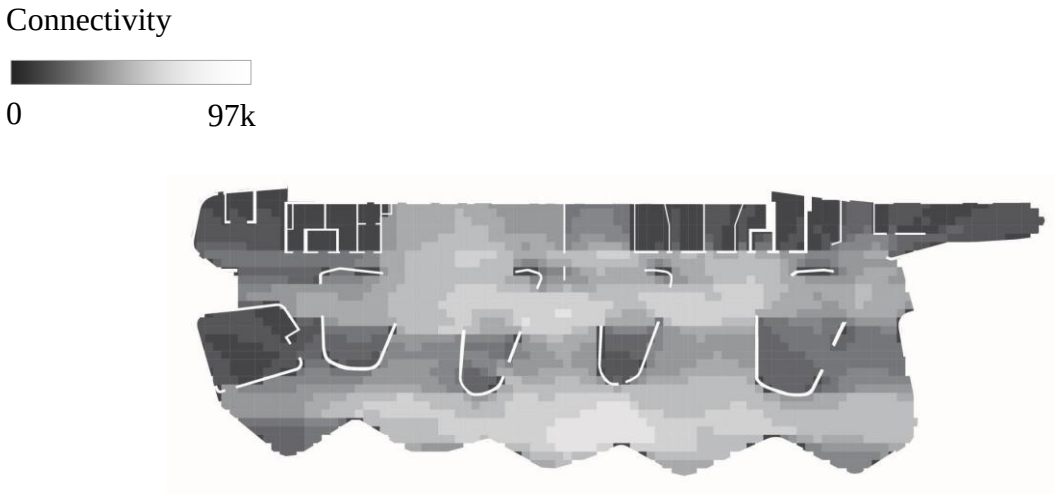


Figure 4.19 Degrees of connectivity in The Abedian School of Architecture (Bond University)

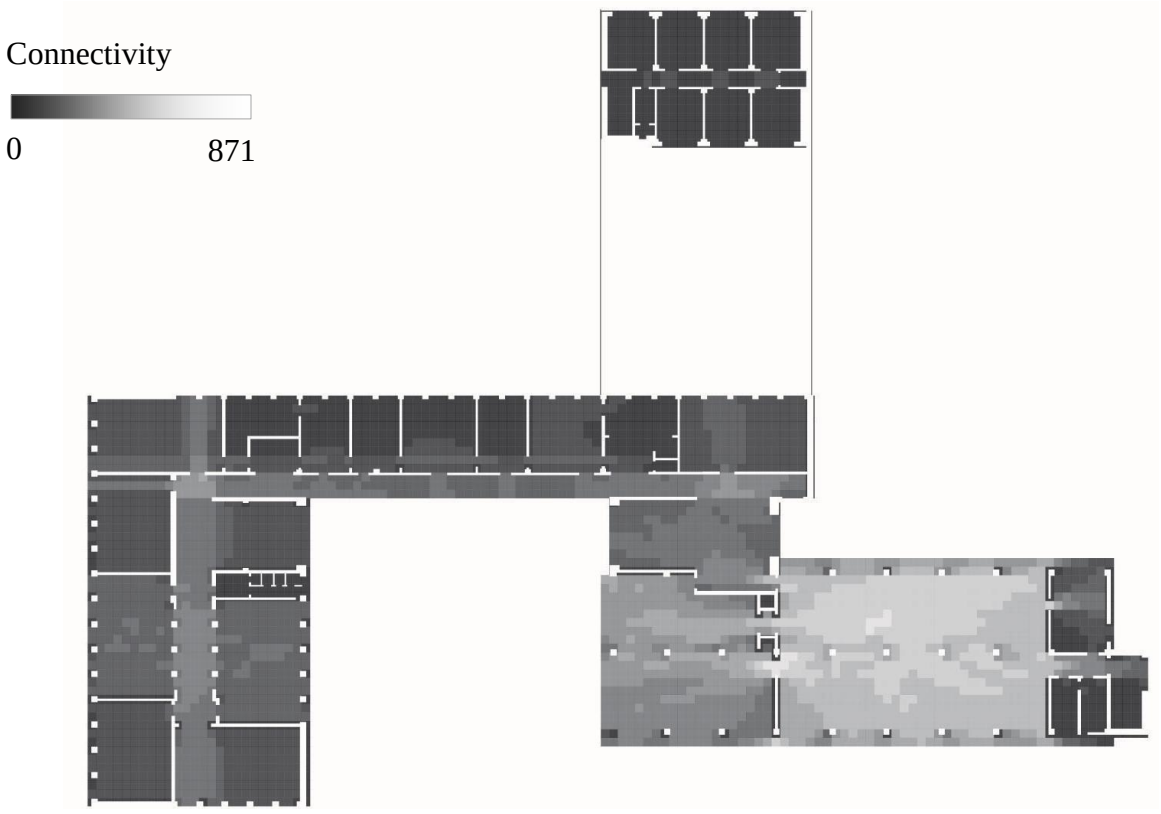


Figure 4.20 Degrees of connectivity in the Bauhaus at Dessau

degrees of exposure within the studios, yet still maintains the large hall feeling; this includes Lee Hall at Clemson, Knowlton Hall at Ohio State, and the Abedian School of Architecture at Bond University. This variation type is a result of unique floor plate shapes and placement of structural elements that creates a more dynamic studio space. The last variation includes only the Bauhaus at Dessau, where the most open space is a workshop while the studios are located in a different wing of the building with less exposure. The studios are on a smaller scale and divided up into rooms – very different from the other examples. Obviously, a majority of the examples have not used the Bauhaus an example, because they mostly all adhere to the precedent of the studio as a large, open hall.

Figure 4.21 Knowlton Hall studio to library relationship

Instead of challenging this idea of the studio as an open hall, designers instead typically choose to focus on issues apart from the studio, such as circulation through the building,

allowing for good quality of light to all spaces, and the relationship of the studio space to the faculty and other important program areas. For example, in Knowlton Hall at Ohio State University, ramps provide for the main path of circulation through the building as the floor levels change between studios and different programmatic areas. This allows for interesting relationships between the studio spaces and other space types to be created, such as that seen between the studios and the library (Figure 4.21). The computer lab and several other spaces of varying program types share this same kind of relationship with the studios in Knowlton Hall. These design moves may lead to unique spatial relationships, such as is seen here, but the studio spaces are still treated in the same way, and with this comes many issues, such as noise, lack of privacy, etc., which was discussed in the previous chapter. It is important that designers focus more on what the students need in order to create a space that provides for a more favorable working environment. As Jack Nasar states in his book *Designing for Designers: Lessons Learned From Schools of Architecture*, "A building for the teaching of architects should engage, not distract the inhabitants of such a building. However, the lack of any systematic documentation of user responses to architecture buildings clearly suggests a repeat of previous malfunctions and unnecessary dissatisfaction."[15]

Thanks to post-occupancy evaluations and research done within the field of psychology, the open studio and open office idea is starting to be questioned and challenged, more so in office design than in the design of schools of architecture. Office designers are exploring the idea of "quiet spaces" within the office and asking the office workers what they want out of the workspace. In schools of architecture, however, students rarely have a say in how their workspace is to be designed. Students are instead forced to work in an environment that is not

[15] Jack L. Nasar, Wolfgang F. E Preiser, and Thomas Fisher, *Designing for Designers: Lessons Learned From Schools of Architecture* (New York: Fairchild Publications, 2007) 33.

conducive to the various activities that happen throughout a typical day, which hinders their overall productivity, creativity, and peace of mind. If all spaces of work, namely the studio spaces and office spaces, were designed to more suitably accommodate the different activities of day-to-day life, the inherent problems that come with these space types would no longer exist.

4.3 How These Schools of Architecture Accommodate the Different Daily Activities

Although schools of architecture today are not necessarily designed to appropriately support the different activities of day-to-day life, these activities still take place, even if the students and faculty themselves must create ad hoc spaces to accommodate them. In looking at the 10 schools of architecture chosen from the larger sample, one can better understand where and in what types of space these activities are currently occurring, so an architectural solution can more easily be proposed to better accommodate these activities. The different activity types seen include withdrawal and privacy, the establishing of one's identity, engaging with others, and the creating of socially intelligible spaces.

4.3.1 Withdrawal

Spaces of withdrawal are rarely seen within schools of architecture, so students must compromise and make their own withdrawal spaces. These makeshift spaces are only slightly effective, but they at least give the students a little more privacy than they would have otherwise. In some cases, the students attempt to make their studio desk into a withdrawal space by surrounding it with moving pin-up walls or boards. Gund Hall at Harvard provides a good example of how students can find spaces of withdrawal within an open studio. Figure 4.22 shows a student's desk located on one of the studio trays that has been semi-enclosed to allow for more privacy. The location of this being in the most open part of the studio space is inappropriate in

that the space is meant to be open with unobstructed views, but the student customized that space to fit his or her own needs. Students whose desks are located under the tray above naturally have more privacy because there are walls and a low ceiling to further enclose the space. Being underneath the tray above also hides students from the view of those in the trays above and below. These students are still a part of the main studio space but feel more separated. Because of the location of these spaces underneath the tray above, measures can be taken to further close off the space to suit the students' needs while still maintaining propriety within the studio. This space can be seen in Figure 4.23. Figure 4.24 shows the location of these within the building section, with the red circle indicating the location of Figure 4.22 and the red arrow indicating the direction of the view shown in Figure 4.23.

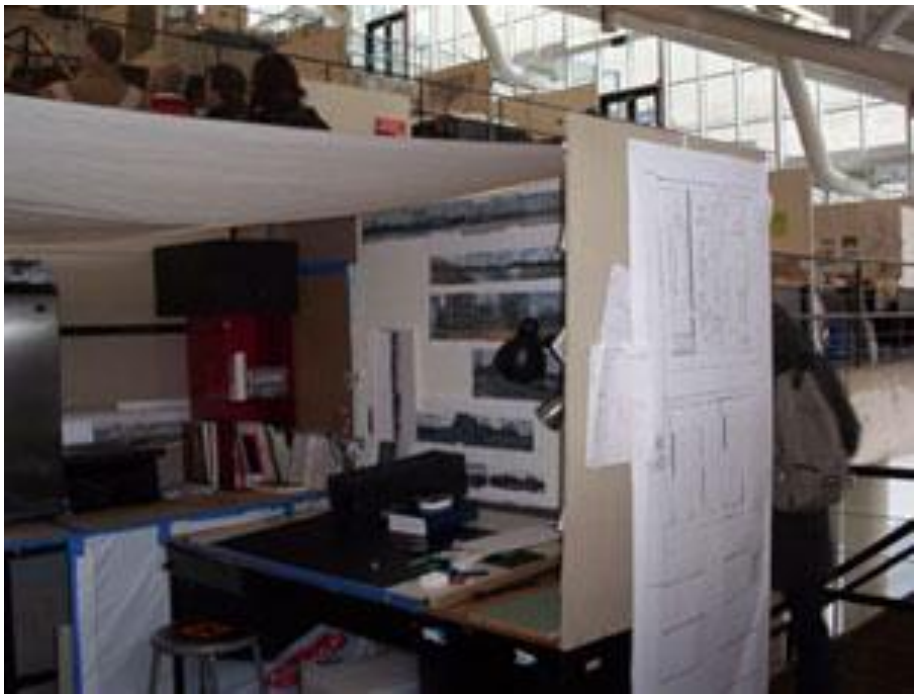


Figure 4.22 Student desk at Gund Hall

Figure 4.23 View into back of studio tray at Gund Hall

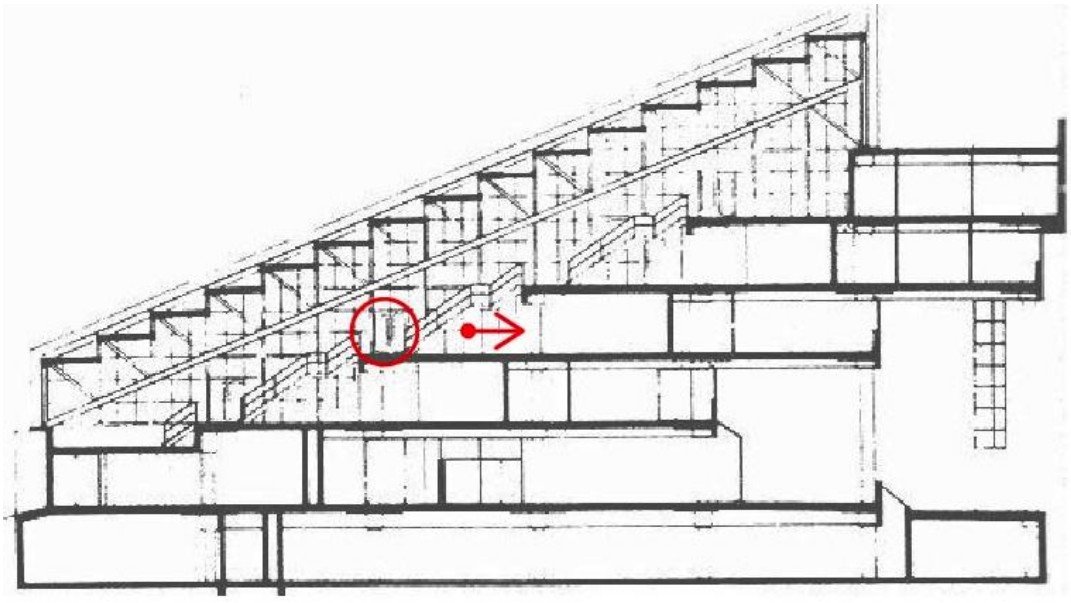


Figure 4.24 Gund Hall Section showing location of different types of withdrawal space

Figure 4.25 Library at Knowlton Hall

Figure 4.26 Semi-private space adjacent to studios in Lee Hall at Clemson

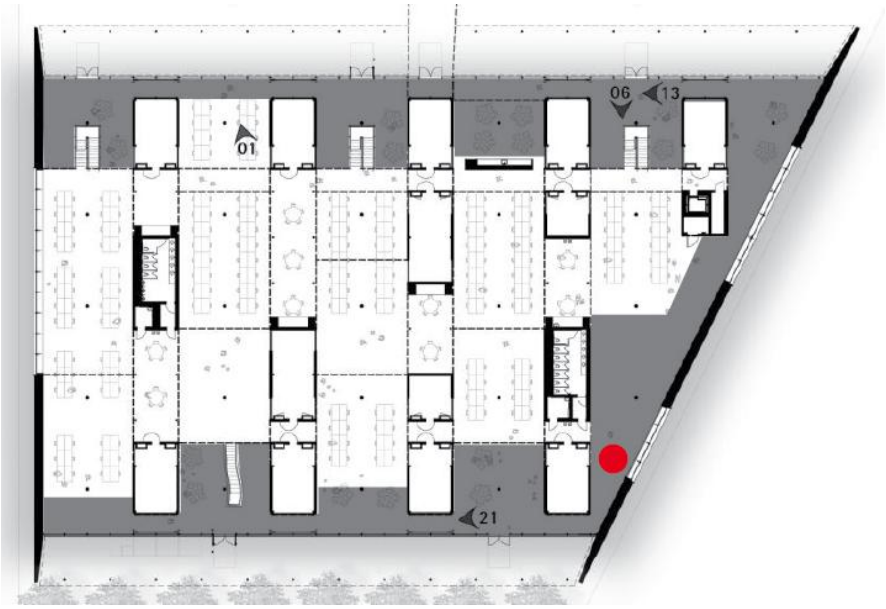


Figure 4.27 Location of jury space within the ‘leftover’ space in Lee Hall

Gund Hall provides a higher degree of withdrawal that helps to maintain a sense of appropriateness within the studio than do most of the other schools of architecture because of its unique design. A few others, however, do provide spaces for the students to withdraw away from the main studio space. All are shared spaces, but they still allow for more quiet and privacy than the studios offer. In Knowlton Hall, for example, the library located above the studios offers the students a quiet place where they can go to concentrate if the studio environment proves to be too distracting (Figure 4.25). Another example would be Lee Hall at Clemson where the plan configuration creates ‘leftover’ spaces to the sides of the studios that can provide for a semi-private space for students if needed. During studio times, these same spaces may also serve as jury spaces, as seen in Figure 4.26 (plan location shown in Figure 4.27).

4.3.2 Establishing of One’s Identity

Even though personal spaces of withdrawal would also be conducive to establishing one’s identity within a larger space, many schools do not offer these personal withdrawal spaces,

therefore the students must establish their identity in other ways. Almost every studio space seen provides each student with his or her own desk. Just as in an office, the students tend to personalize these desks in a way that expresses their identity. This holds true for some cases more so than others, however. Some students may not feel comfortable working within a studio space, for example, so they choose to look at their desk simply as a place to sit and work during studio time. They make no effort to personalize their desk because they prefer to work elsewhere when they have the choice; they feel no need to make the space their own. Establishing one's identity within the studio is critical to maintain a thriving studio culture, however. Students in Burchard Hall at Virginia Tech tend to personalize their desks in order to establish their identity within the large, open hall that serves as the studio space for all year levels and design majors at the school (Figure 4.28). Gund Hall at Harvard also shows examples of the establishing of one's identity within the studio space via the personalization of one's desk area, as was seen in Figures 4.22 and 4.23.

Figure 4.28 Desk personalization at Burchard Hall, Virginia Tech

4.3.3 Engaging With Others

One advantage to the open studio is the opportunity for students to more easily network with one another and create strong bonds that can benefit them professionally in the future. This activity type can happen outside of the studio, also, through socializing caused by chance encounters and organized events that students are not necessarily required to attend. It is important, therefore, that there are spaces for these to be accommodated for outside of the studio. Many schools of architecture include event spaces within their program, but some of these spaces are more dynamic than others.

At the Abedian School of Architecture (Bond University, Australia), these types of spaces are what the school has been designed around. The driving concept of the school design was that of a city street. A 'street' runs the length of the school and serves as the unifying space for all of the different program spaces. This allows for many chance encounters as students make their way from once space to another. The 'street' also serves as a space where social events are held, such as what is shown in Figure 4.29. Along the street, the large planar and curved concrete walls carve out spaces meant for collaborative work, group withdrawal, and exhibition and reviews (Figure 4.30). The street and its unique attached spaces on the bottom level serve as the main public and social spaces within the building (shown in plan in Figure 4.31).

The Abedian School of Architecture seems to provide the most structured environment for socializing and networking outside of the studio compared to the other 9 schools of architecture being analyzed. In these other schools, chance encounters often happen as a result of the relationship between the paths of circulation and the studios. One example of this would be Knowlton Hall where a series of ramps connect the studios. In other examples, such as Milstein Hall (Cornell) and Lee Hall (Clemson), the paths of circulation are not clearly separated from the

Figure 4.29 The ‘street’ of the Abedian School of Architecture accommodating a social event

Figure 4.30 A space for group work located adjacent to the main ‘street’ of the Abedian School of Architecture

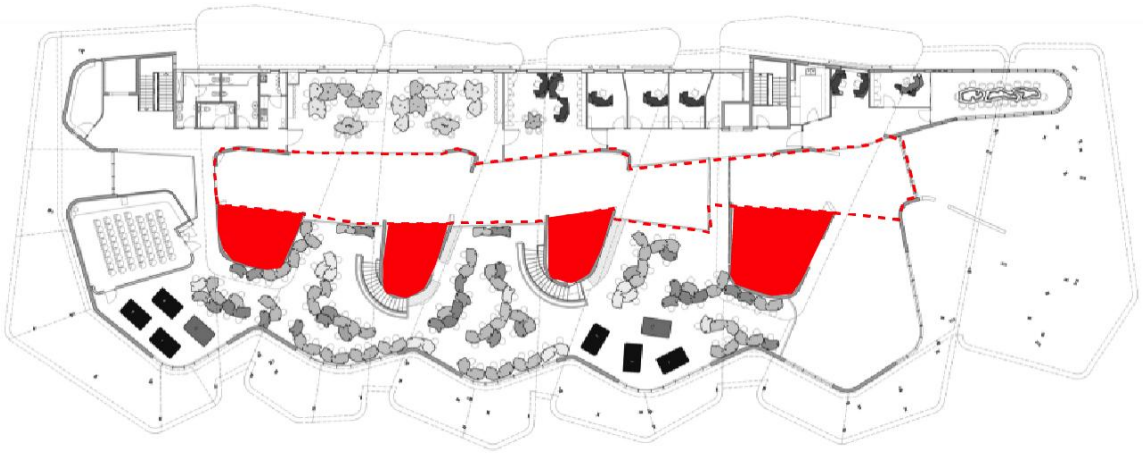


Figure 4.31 The Abedian School of Architecture plan showing main ‘street’ with dashed outline and adjacent group withdrawal/collaboration spaces shown in solid red

studios. This is mainly due to the fact that the building itself is one large space with only a few staircases and partitions dividing up the space. Many different paths of circulation can be seen within these plans as a result, which leads to an increased occurrence in chance encounters.

Being aware of those around oneself is closely linked to the idea of networking, and thus is very important within a school of architecture. Of course being in an open studio space allows this, but there are also other opportunities for this seen in various other areas throughout each of the school of architecture buildings in the sample. Slight level changes between studios, such as those seen in Knowlton Hall, Higgins Hall (Pratt Institute), and the Art & Architecture Building at Yale also encourage awareness of others, providing maximum views from one studio to another. This allows for the students to become more engaged with others, gaining inspiration from their colleagues while also just gaining an idea of what the students in different studios are working on at any given moment.

Providing students with spaces that allow them to observe reviews and to see the finished product of their peers' work is also important within schools of architecture. These spaces come in a variety of different forms. Many schools offer ample space adjacent to review spaces for outside observers to stop by and watch presentations without causing a disruption of any sort. Examples of these would include the schools of architecture at Penn State, Bond University (the Abedian School of Architecture), and Yale. Other examples create more unique spaces for observation of this sort, where paths of circulation cut across the top of the jury space, giving passersby the option to stop and observe or to continue on to their destination, still having been made aware of the presentation occurring. Two examples of these would be Knowlton Hall and Milstein Hall (Figures 4.32 & 4.33). The ramp in Knowlton Hall runs above and alongside the

Figure 4.32 Knowlton Hall jury space with observers above

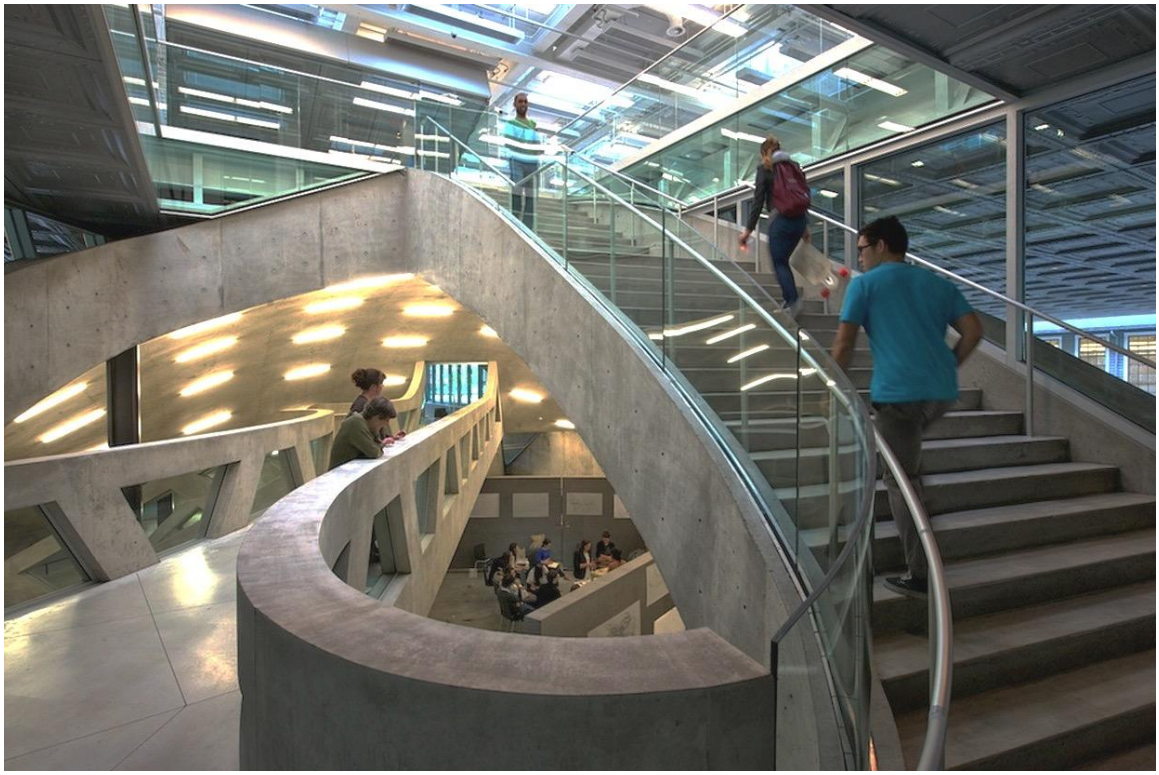


Figure 4.33 Path of circulation cutting across and above jury space

jury space while the path of circulation in Milstein Hall crosses overtop of the space more than once. Milstein Hall also provides those passing by on the exterior of the building a view in to the jury and exhibition space so they can observe what students are doing, even if they are not a student or faculty member within the college of architecture.

4.3.4 Creating Socially Intelligible Spaces

Studio spaces are, more than anything, spaces for production in today's schools of architecture. A majority of a student's time is spent producing drawings, models, and other presentation materials, and studio often provides the best space for this range of tasks. Therefore, it would be safe to say that every school of architecture within the sample of 10 being analyzed includes spaces of production within the studios. Certain studios are used to accommodate other activities, however, such as teaching & learning and reviews.

Teaching and learning within the studio space is seen less in schools such as Virginia Tech where the large open hall is not conducive to these makeshift classrooms. This may be due to a variety of factors including the noise level within the studio or the arrangement of desks, which would provide inappropriate spaces for such activities. In most other cases, however, instructors typically gather their students together to give general instruction or to educate them on a particular subject matter that relates to the project they are working on at the time (Figure 4.34). Milstein Hall at Cornell even has an instruction/lecture space located at the center of the main studio hall that can also serve as a space for relaxation and/or socializing (Figure 4.35). Because of the degree of differentiation between this space and the studio space that is provided by the metal paneled wall and auditorium-like seating structure, although this space is technically located within the larger studio space, the activities that typically take place here are separate enough to preserve the sense of propriety between the different activities happening within that space.

Figure 4.34 Studio instruction in Gund Hall at Harvard

Figure 4.35 Learning space within studio at Milstein Hall, Cornell

Just as the studio space can also be used as a space for teaching and learning, other spaces can be used as spaces of production. A good example of this is at Penn State where the jury space located between studios typically meant for presentations (Figure 4.36) is used also at times used as a production space (Figure 4.37). In this case, a socially intelligible space is created when group members using the space block off the path of circulation that runs through, which helps to maintain the propriety of activities happening within that space at that time. Another example of this is at Lee Hall. Figure 4.26 showed how the configuration of the plan resulted in spaces located to the sides of the main studio space that can serve multiple purposes. Figure 4.38 shows another one of these 'leftover' spaces that is a little more public, only being

Figure 4.36 ‘Front stage’ presentation of self (Stuckeman Family Building, Penn State)

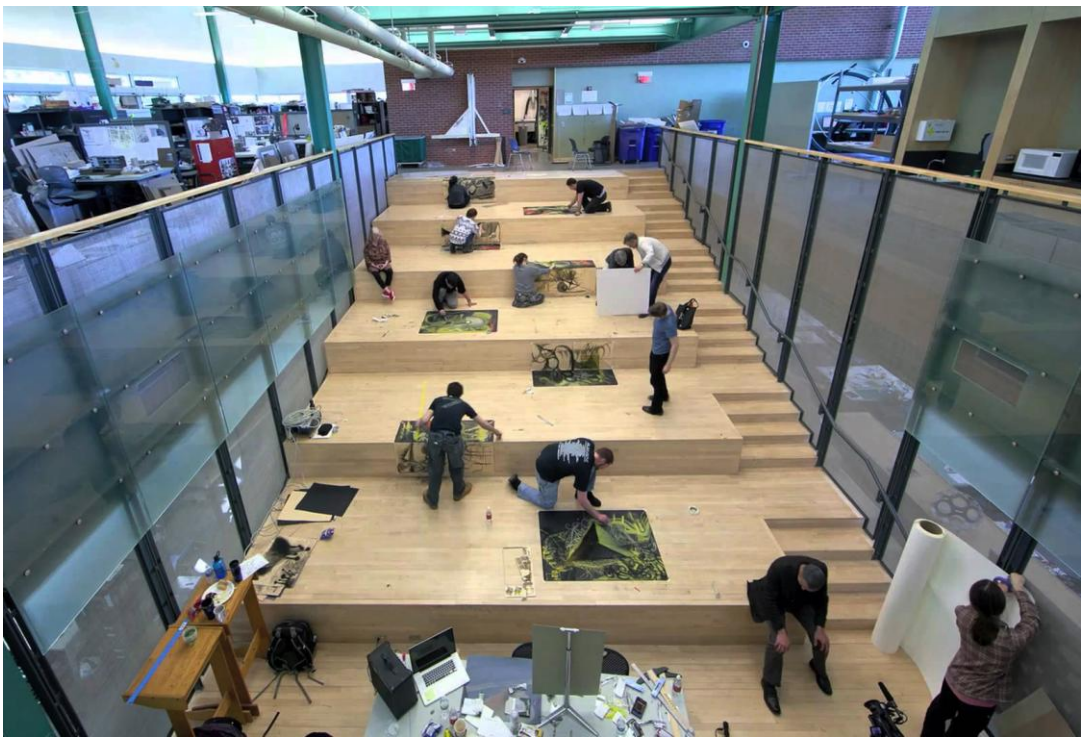


Figure 4.37 Presentation space turned to production space (Stuckeman Family Building, Penn State)

Figure 4.38 Space behind staircase being used as additional production space, Lee Hall at Clemson

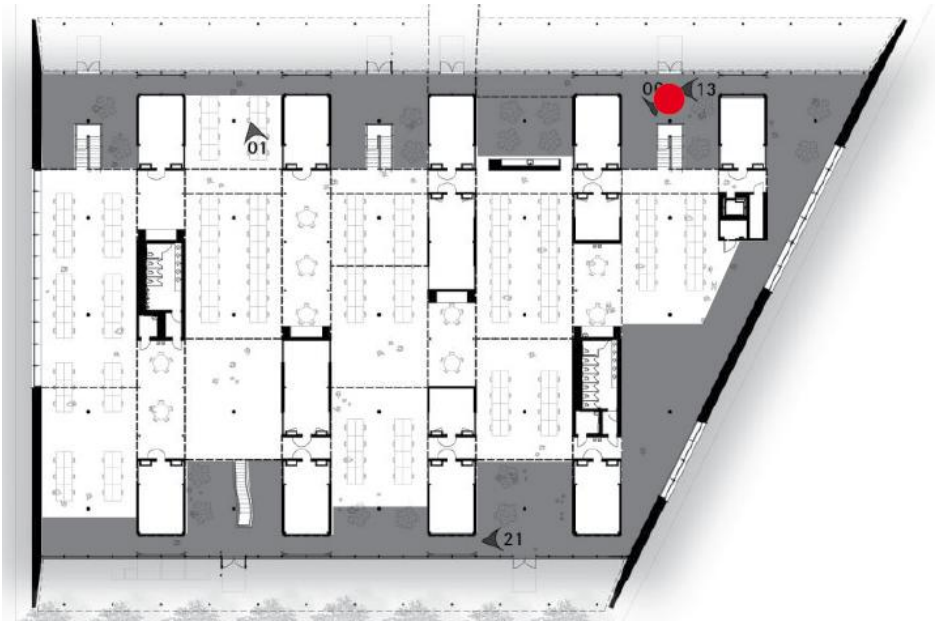


Figure 4.39 ‘Leftover’ spaces in the plan of Lee Hall that are used for multiple purposes including production

divided from the studio by a staircase leading up to the upper level. Figure 4.39 shows the location of these space types in dark gray that serve multiple purposes including this type of production. Production taking over this leftover space may be appropriate in some spaces within the building, but as mentioned earlier, the location chosen for this activity in this case (Figure 4.38) is similar to locating a kitchen at the front door of a house, and is therefore not appropriate. Looking at the red dot in the plan in Figure 4.39, one can see that the students have chosen to situate themselves at one of the main entrances to the building. This is meant to be a place where people enter in and pass through in order to get to the upper levels or to the studio spaces. A 'back stage' activity is taking place in a 'front stage' space in this case, which is not appropriate.

4.4 Conclusion

Through this analysis of the sample of 10 schools of architecture, one can see that the day-to-day activities are accommodated via the architecture of the buildings only to an extent. The open studios tend to take on various roles, including a space for production, learning, networking, providing awareness of others, etc. – mainly all of the more public activities are contained within the studio, even though they are not all being appropriately accommodated. Spaces lacking in all of the schools, however, that are crucial to creating a stronger studio environment and contributing to the overall well being of the students are spaces for withdrawal and other more 'back stage' activities. It is important that these space types be incorporated into future designs of schools of architecture, along with creating more suitable spaces to house the other activity types. One large space is not conducive to every type of activity, as this analysis has shown, although some examples have proven to provide more of a sense of propriety within these spaces than others. This can be seen in the depthmap analysis in section 4.2 of this chapter

in the designs that include more differentiation between activity spaces via the structure of placement of walls within the building.

More differentiation and a defined hierarchy between the different ‘front stage’ and ‘back stage’ spaces within the building would help to structure the space in a way that would essentially help to maintain a sense of propriety and thus result in a more efficient use of the building overall. Paths of circulation should also be continuous with no dead-ends in order to eliminate wasted space and to encourage more chance encounters between the students and faculty. In taking these observations from the analysis into consideration, an architectural solution can more easily be presented in order to inspire future designers and to ultimately make the studio of the future a more comfortable environment for students to ‘live’ and work in.

CHAPTER 5

A NEW DESIGN PROPOSAL

A quintessential example of the open studio space within a school of architecture is seen at Crown Hall on IIT's campus designed by Mies van der Rohe in 1956. Mies' intention was for the main level space to act as a universal space that housed studios and was meant to accommodate all of the activities related to and supporting those studios. Only several partitions were placed at the center of the space to provide some pin-up and storage space within the open hall. The height of these partitions, however, does not break the datum line set by the exterior shell of the building, which sits at a height of a little over seven feet from the floor. This allows the feeling of the open space to be maintained. Several rows of lockers that come to about the same height were also placed within the space to further divide the studios, as seen in Figure 5.11. Secondary space types were placed below the main level in the basement, where the industrial design studios currently reside, along with a library.

5.1 A Design Intervention

With Crown Hall being such a respected work of architecture and prime example of the type of studio spaces that are typically being seen in architecture schools today, it would be fitting to propose a design intervention for the famed building that serves to provide an alternative to the universal space that better accommodates the different daily activities happening within the building while still respecting the existing design. In doing this, one can see the benefits to having more differentiation and hierarchy within a space, and hopefully

designers will take these into consideration when designing schools of architecture in the future, or just work spaces in general.

The main goal in this intervention was to introduce more spatial structure and hierarchy between spaces, with the 'front stage' and 'back stage' spaces being more clearly defined. The studios themselves emphasize this idea on a more compact scale and are intended to act as individual social units (Figure 5.14) with their own internal hierarchy of spaces. Beginning by looking at the main level floor plan of the proposed design in comparison to the existing design in Figures 5.10 and 5.11, one can see these spatial hierarchies on both scales. The main entry of the building brings visitors and the inhabitants – students and faculty – into a lobby space where guests can be greeted and informal gatherings and chance encounters can occur. A Miesian marble wall and two flanking wood-paneled low walls structure this space. These low walls also provide structure for the corridor-like spaces that divide the open hall into thirds, with the central space being the most 'front stage' space, while the side spaces house the studios and faculty offices and are slightly more 'back stage' in nature. The back entrance to the building leads into a smaller lobby-like area, which is located at the back of an auditorium that includes amphitheater seating and is enclosed on three sides by partitions that offer the space a good amount of height without meeting the ceiling. The reason for this was to maintain the overall openness of the space.

In the exploded axonometric drawing in Figure 5.14, the hierarchy of the spaces on the main floor can be seen even more clearly. The columns of faculty offices act as the dividers between the public spaces and the studios with a full-height glass partition at the front of the offices that also works as a sound barrier between the two space types. Although the faculty offices are fully enclosed, they are essentially glass boxes with only solid walls between offices

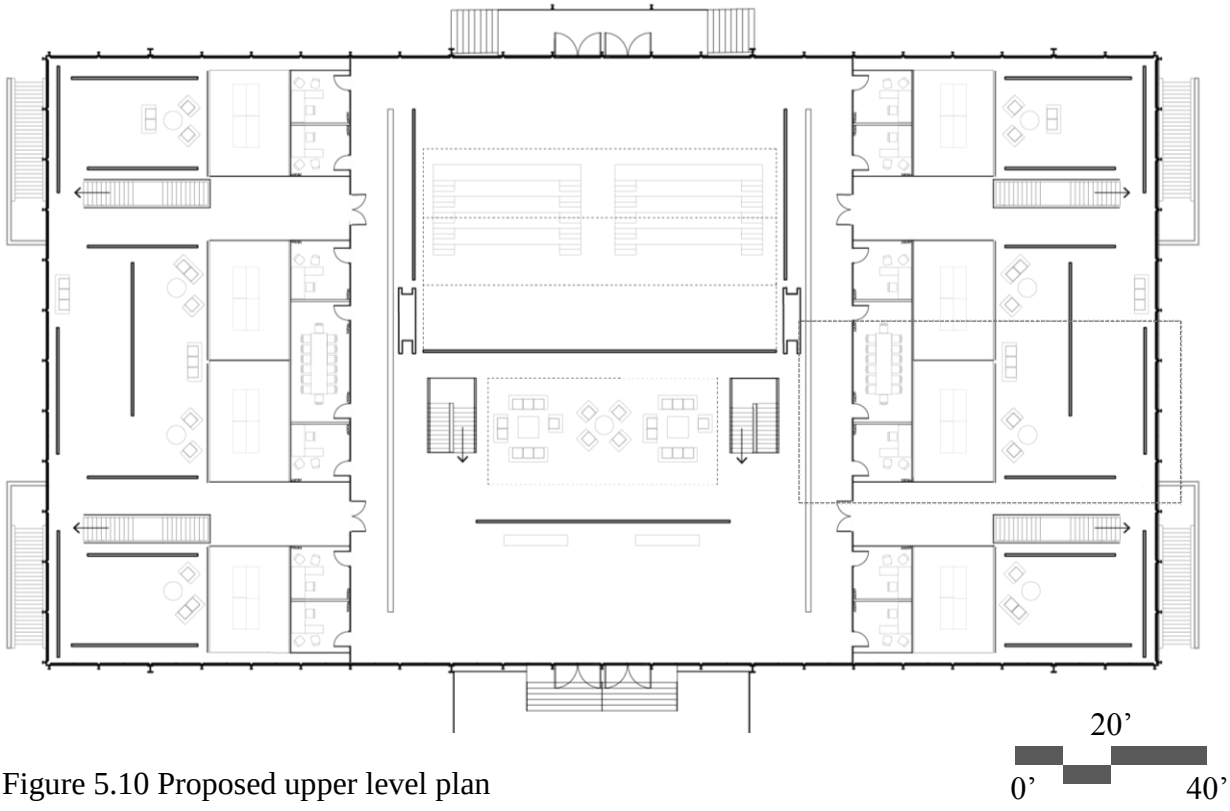


Figure 5.10 Proposed upper level plan

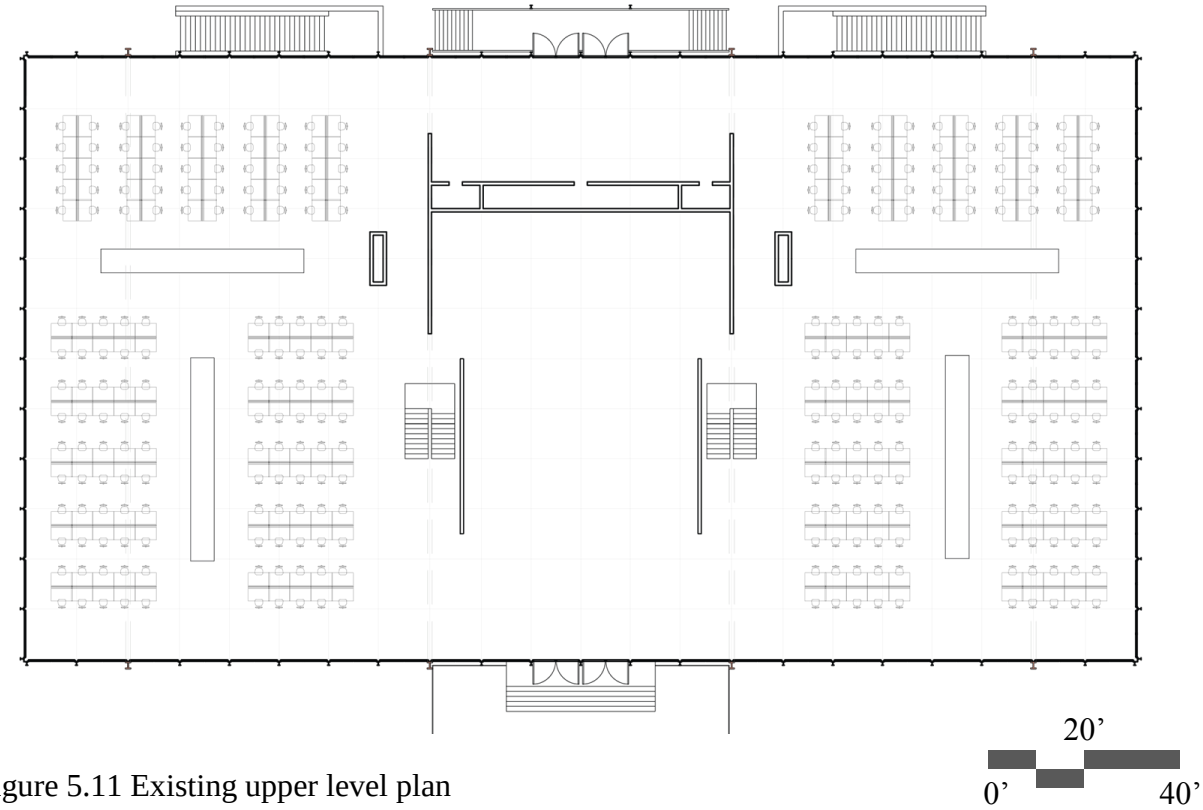


Figure 5.11 Existing upper level plan

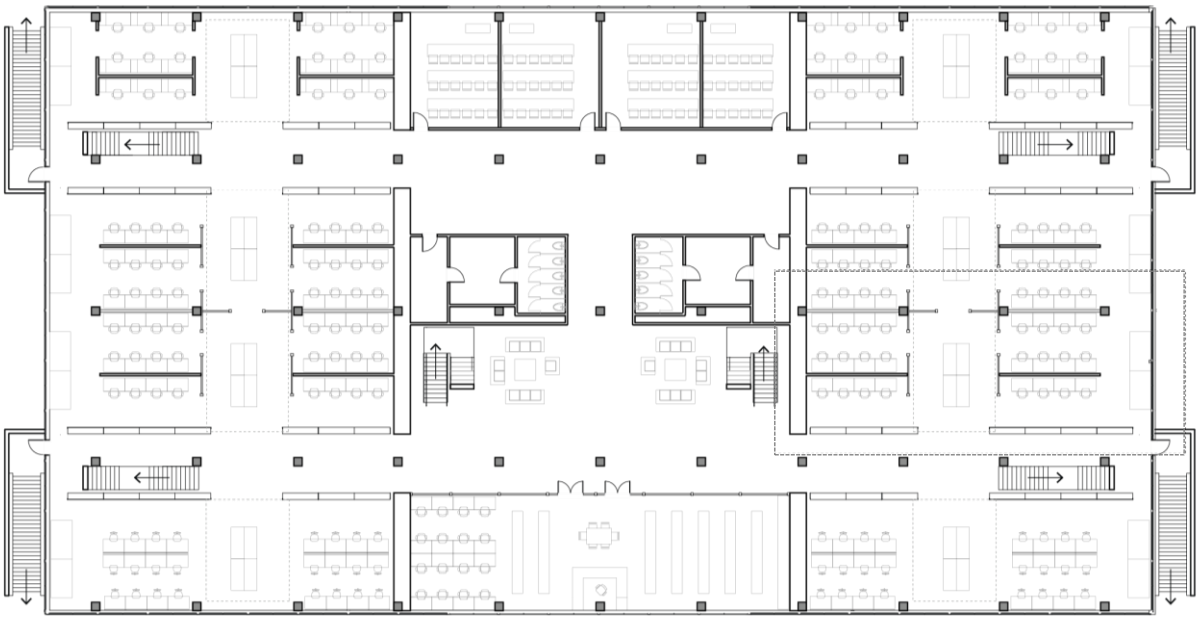
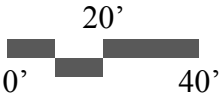


Figure 5.12 Proposed basement level plan



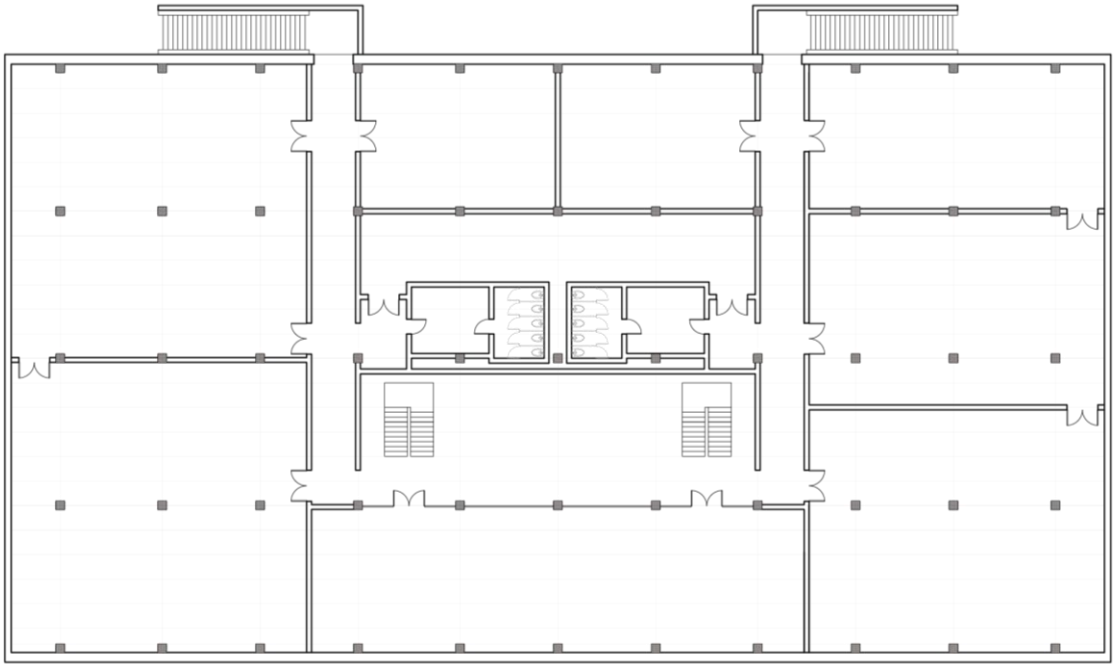
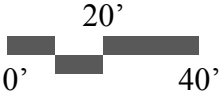


Figure 5.13 Existing basement level plan



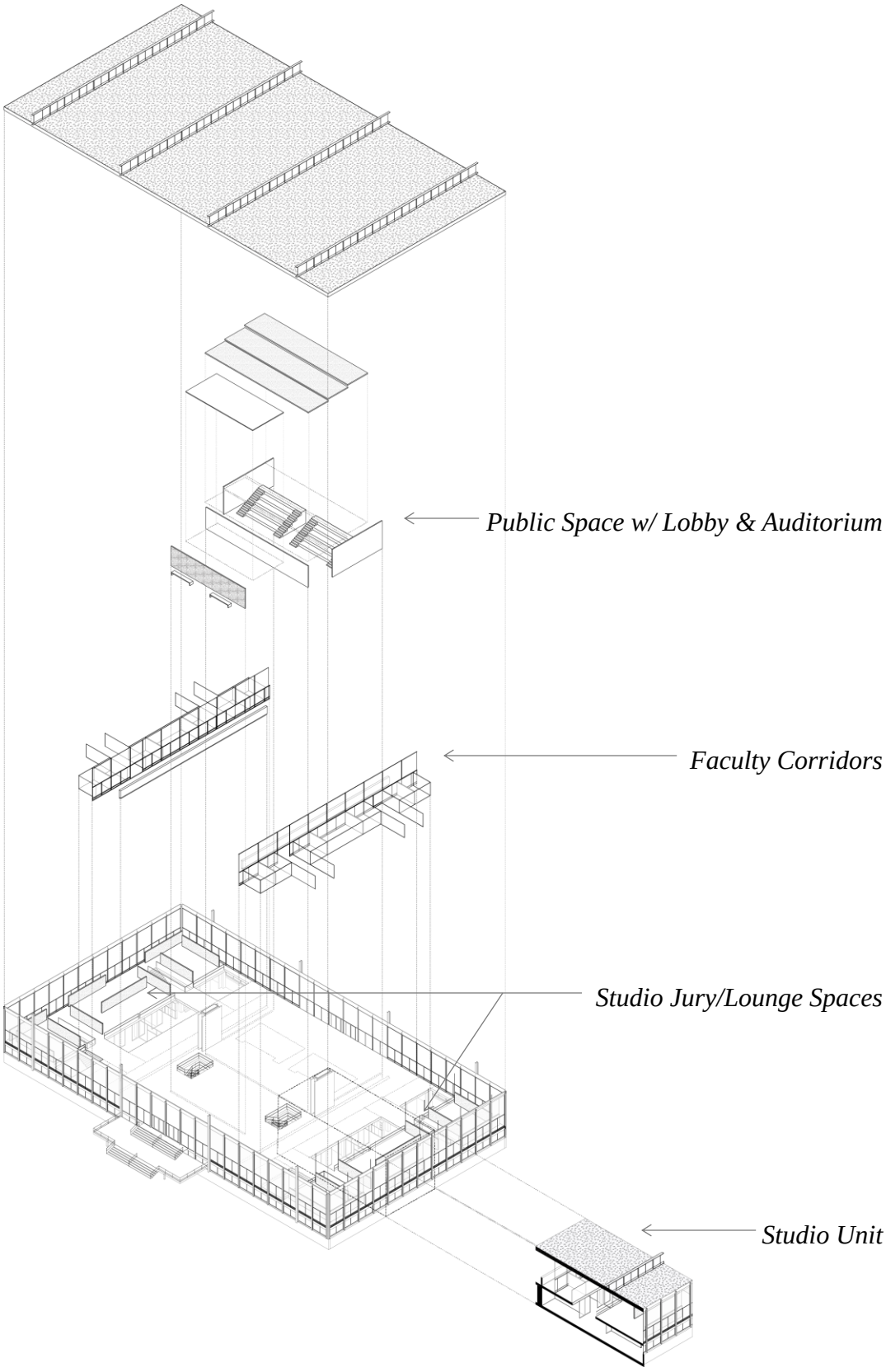


Figure 5.14 Exploded axon. with section axon. of studio unit

to allow for more privacy. This level of transparency allows for the open hall to maintain its character, while at the same time, provides more structured spaces to better accommodate the needs of the faculty and students.

Jury spaces are located behind the faculty offices and can also be used as a lounge space or a classroom for the studios. Hanging walls add structure to these spaces and provide surfaces for students to pin-up work. Within each studio unit (as seen in Figure 5.14), these offices and jury spaces are separated by an opening in the floor plate that allows a view down into the production space of the studio below where the students spend a majority of their time. The more 'back stage' activities of the studio, such as production and withdrawal, happen on the lower level of the studio, while the upper level accommodates the spaces for presentations and more formal gatherings. The opening in the floor connects these space types and further accentuates the idea of the studio as a unit. The sectional comparison of this enhanced studio space versus that which exists within Crown Hall currently can be seen in Figures 5.23 & 5.24.

A larger degree of differentiation has been created with the addition of more structural elements, creating a more diverse space to accommodate for all of the activity types. This can be seen in Figures 5.15-5.18. The transparency that has been maintained on the upper level results in a higher level of visual connectivity, while the glass partitions and low wall that structure the faculty corridors on either side still provide for spatial differentiation (variation in color seen in Figure 5.15); the lower level has less transparency to provide more privacy for the 'back stage' spaces. One can see that the lower level contains two main corridors running lengthwise along the building to provide the main paths for circulation. Secondary corridors are to the sides and run perpendicular to the main corridors, connecting the studios. Even though there may be a strong hierarchy between these paths of circulation, they still provide loops in circulation with no

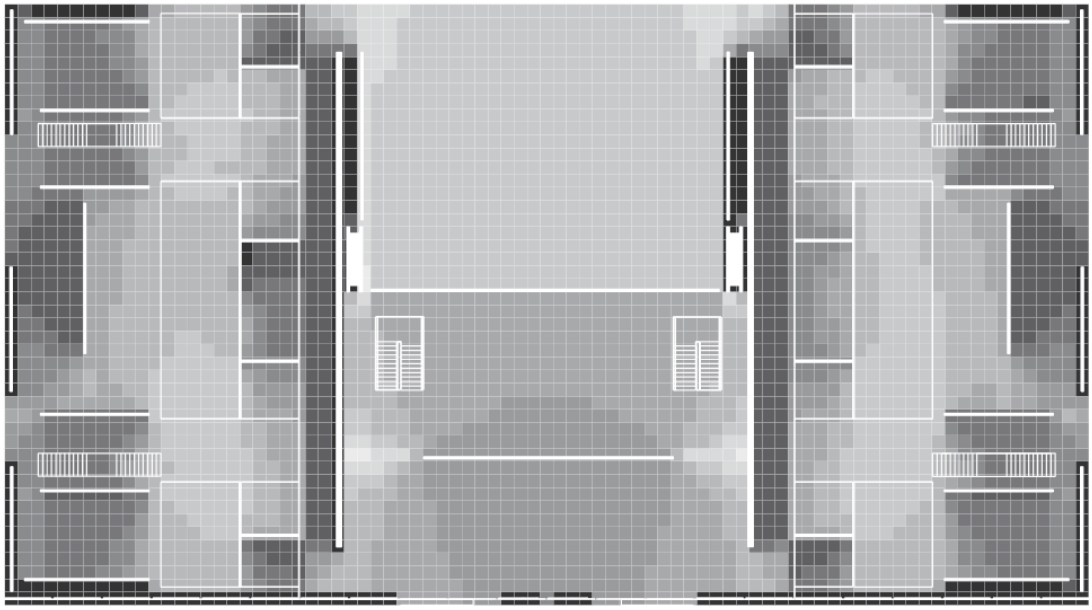


Figure 5.15 Degree of connectivity in proposed upper level plan

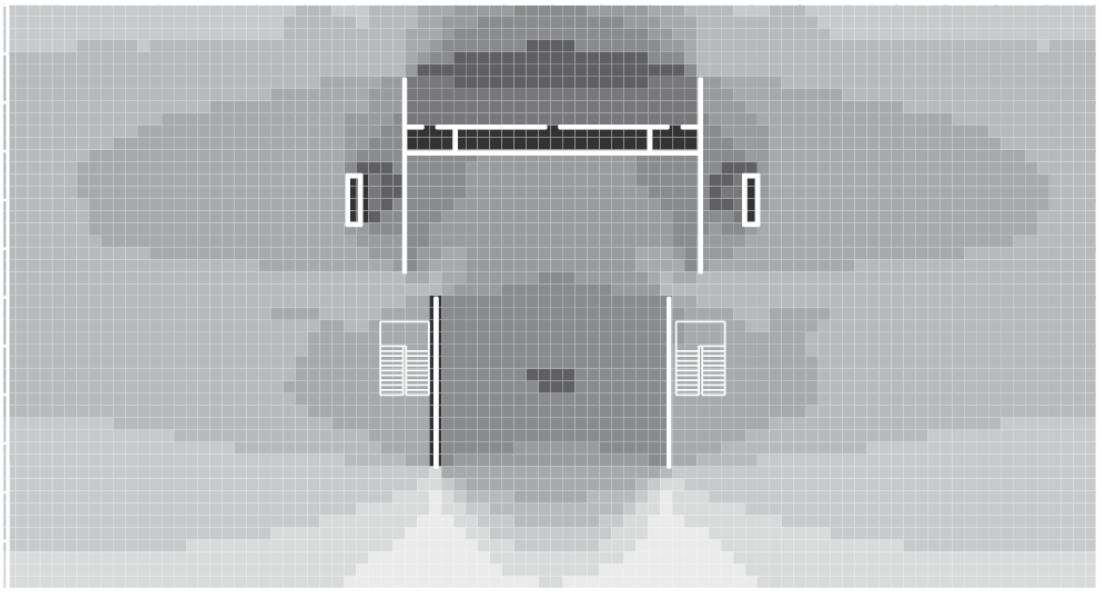
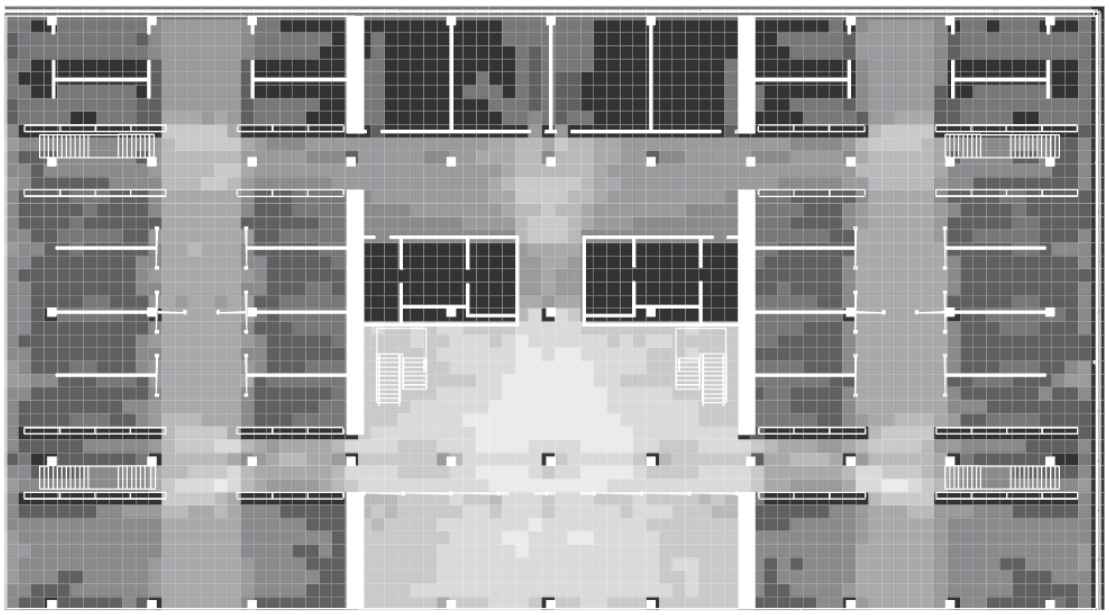


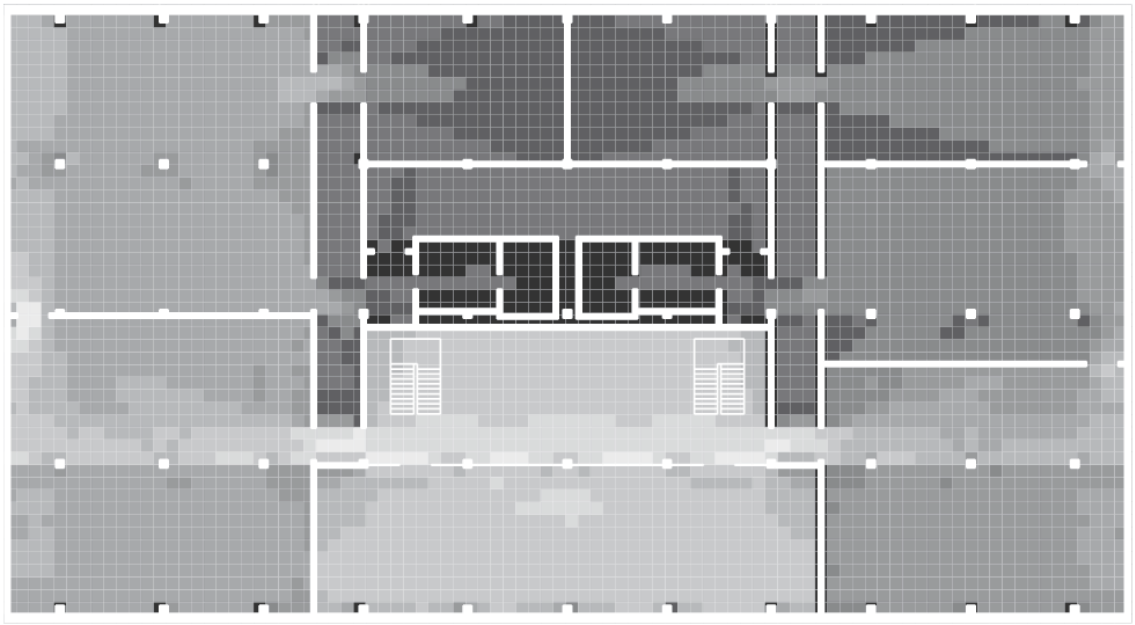
Figure 5.16 Degree of connectivity in existing upper level plan



Connectivity

0 780

Figure 5.17 Degree of connectivity in proposed basement level plan



Connectivity

0 1099

Figure 5.18 Degree of connectivity in existing lower level plan

Figure 5.23

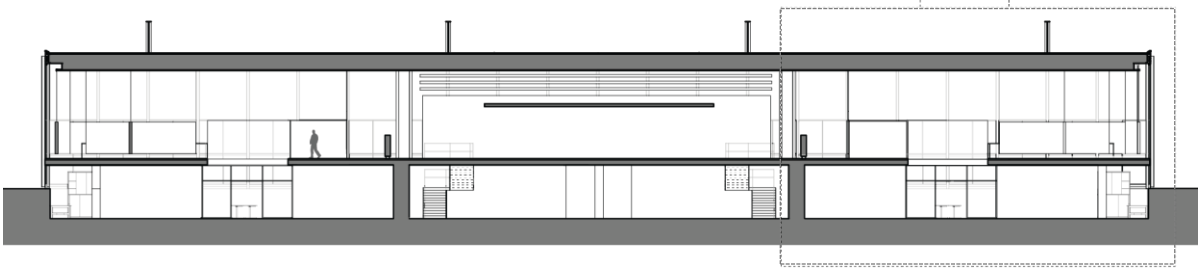


Figure 5.19 Longitudinal section through proposed intervention

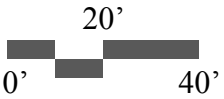


Figure 5.24

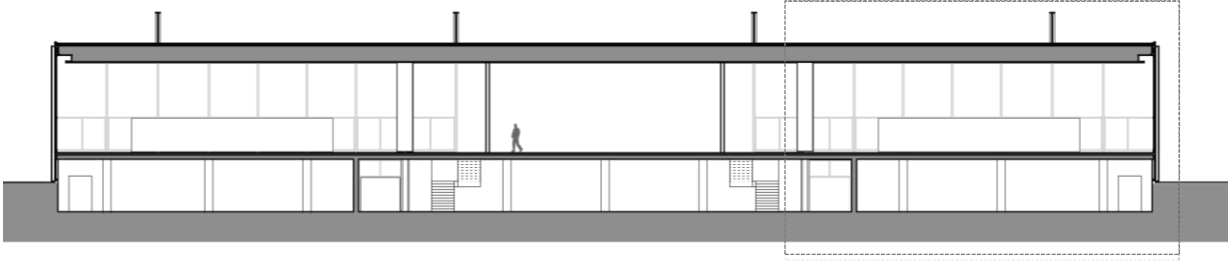
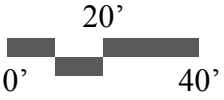


Figure 5.20 Longitudinal section through existing design



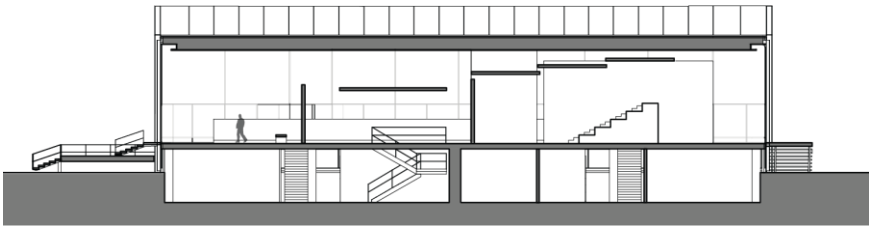
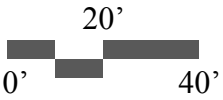


Figure 5.21 Lateral section through proposed intervention



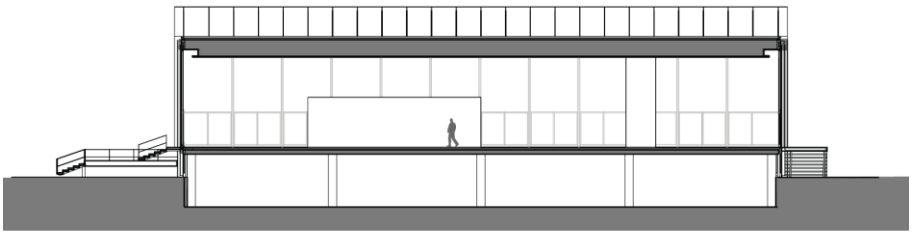
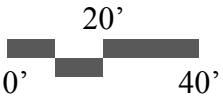


Figure 5.22 Lateral section through existing design



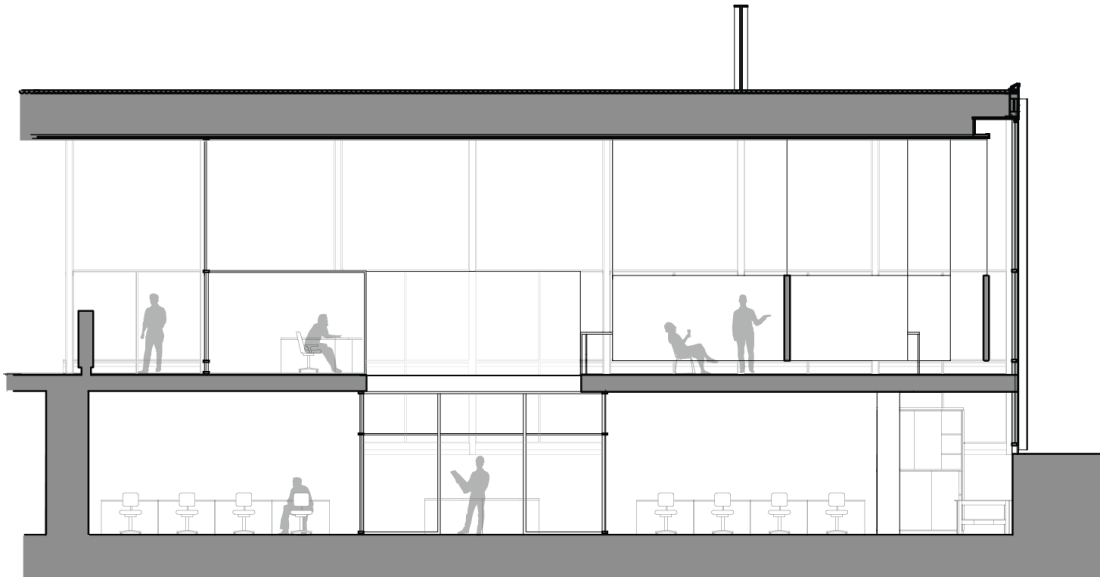
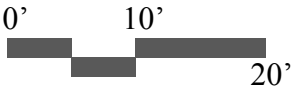


Figure 5.23 Enlarged section of proposed design studio unit



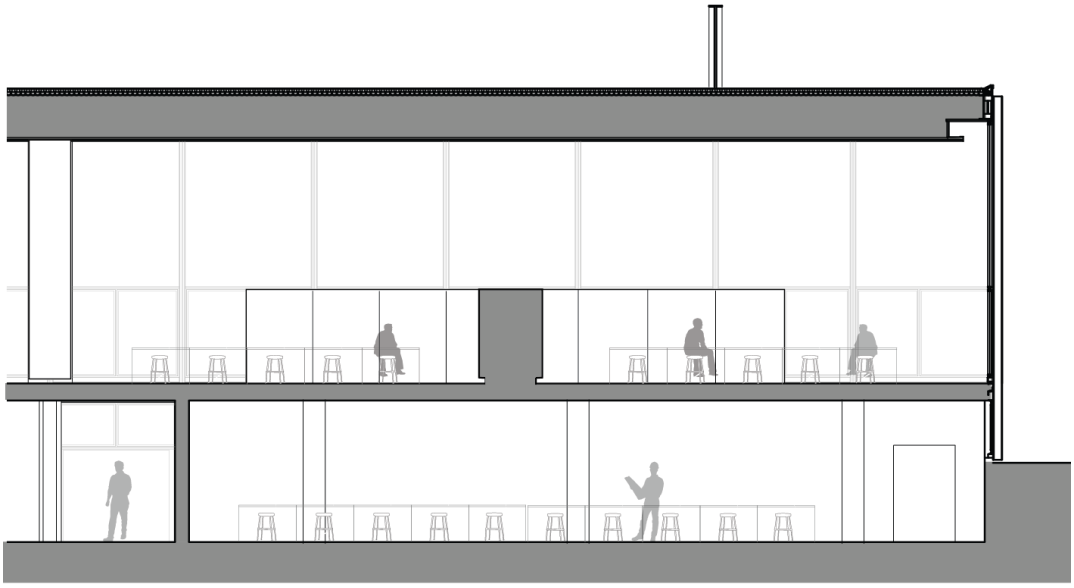
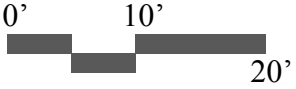


Figure 5.24 Enlarged section of existing design



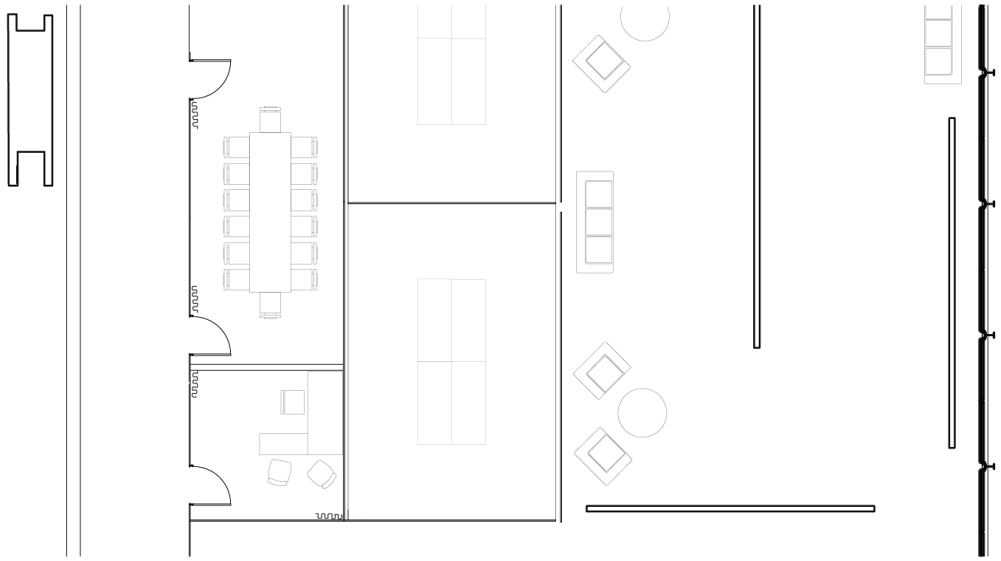
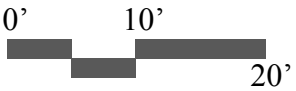


Figure 5.25 Enlarged upper level plan of proposed design studio unit



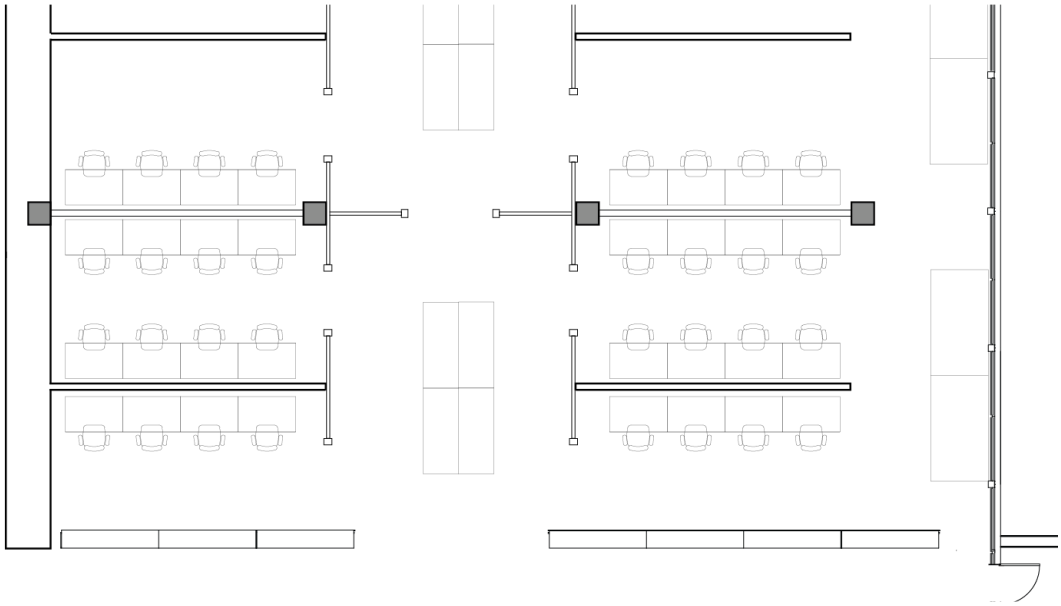
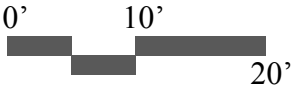


Figure 5.26 Enlarged lower level plan of proposed design studio unit



dead-ends, and encourage through traffic, allowing increased opportunities for chance encounters and meetings. This supports the idea of engaging with others, as talked about in the previous chapters, while the spatial differentiation is still being achieved. This is also seen on the upper level where there is a circulation loop encircling the shared public spaces at the center of the building.

With this design intervention, the Miesian sense of space and detail has been respected and even enhanced in certain areas. By opening up the more enclosed and cellular lower level to the spacious upper one, the spatial qualities of the open building have been heightened. The universal space still exists but has been interpreted in a slightly different way. The Miesian definition of a universal space has been challenged; it does not have to imply a glass box. A more dynamic space can be created to accommodate many different activity types while still maintaining the same sense of openness. Figures 5.27-5.36 show the before and after comparison between several of the different space types within the building in order to better represent just how dynamic the spaces are within the proposed design intervention.

Taking this design intervention as an example, designers will hopefully be able to see the benefits of a higher degree of spatial differentiation to accommodate the different 'front stage' and 'back stage' activities. This consideration of the range of possible activities and the richness of encounters that make up our public work environments can help designers to create environments that are not only functionally responsive but also imaginatively engaging. In doing this, a higher degree of efficiency in work and production will be achieved by those inhabiting these spaces, which will ultimately positively affect the well being of society and the economy.

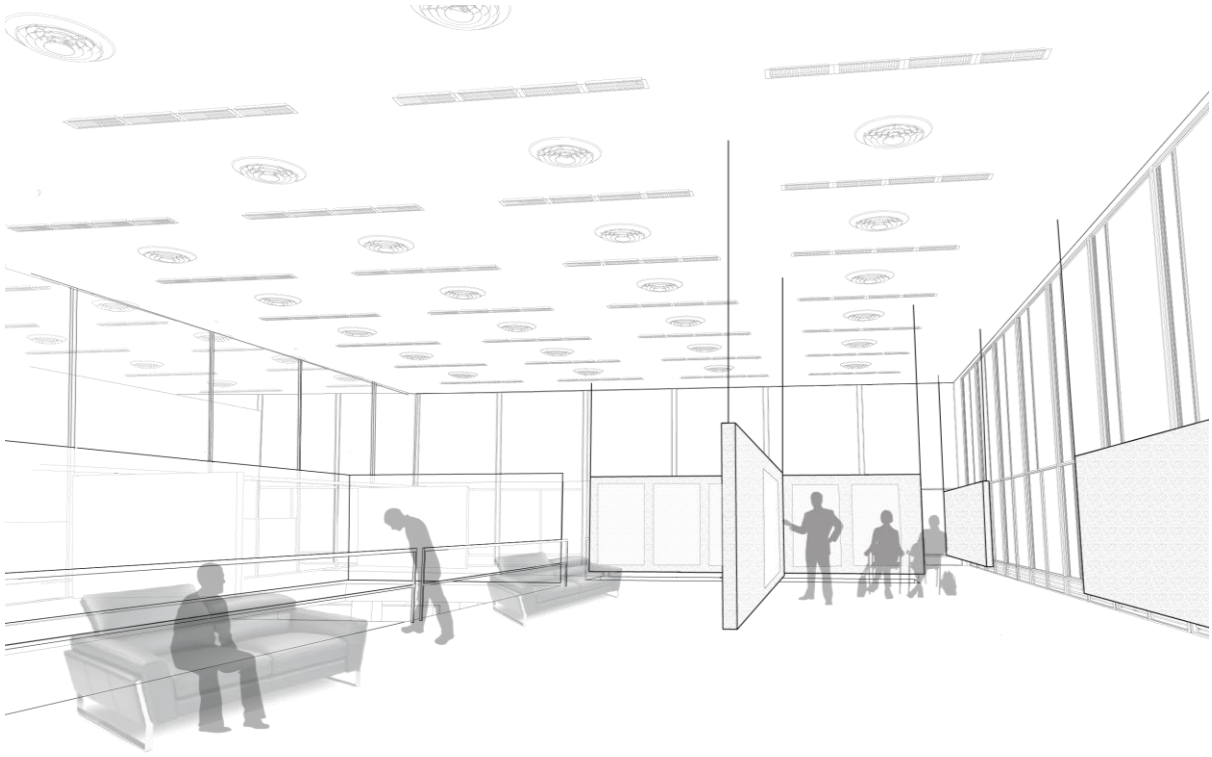


Figure 5.27 View of proposed design jury space

Figure 5.28 Same view of existing space

Figure 5.29 View of proposed design front entry space

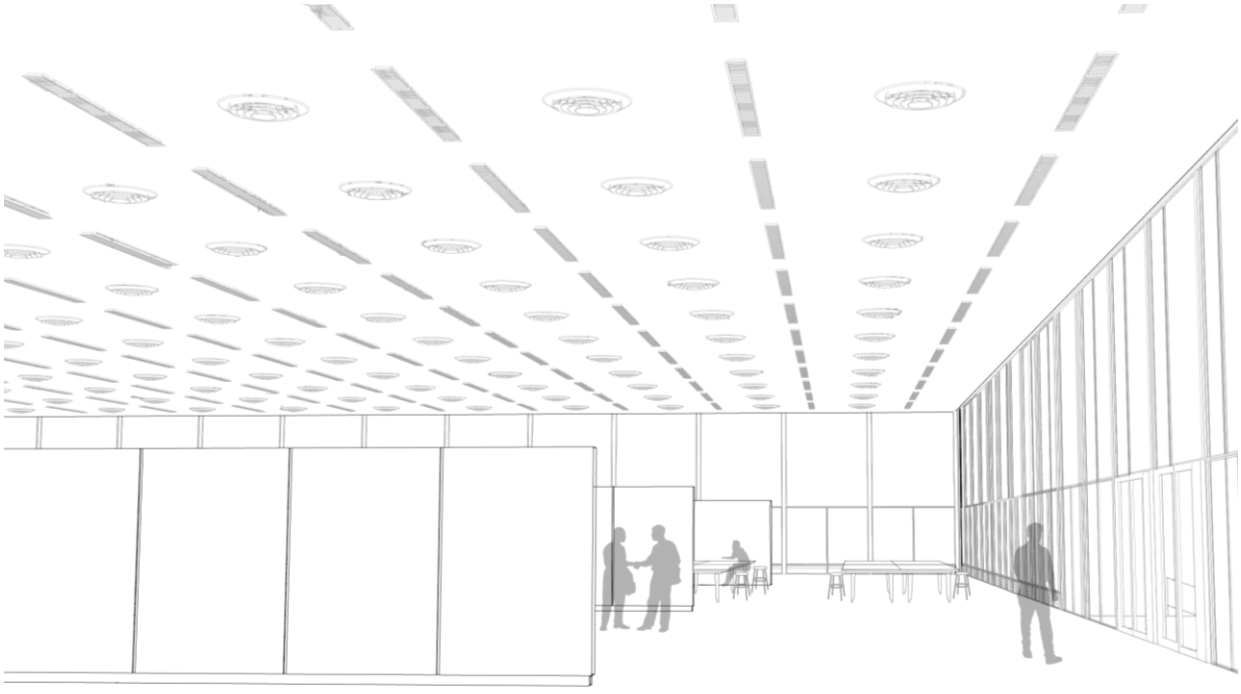


Figure 5.30 Same view of existing space

Figure 5.31 View of proposed design lower level studio space

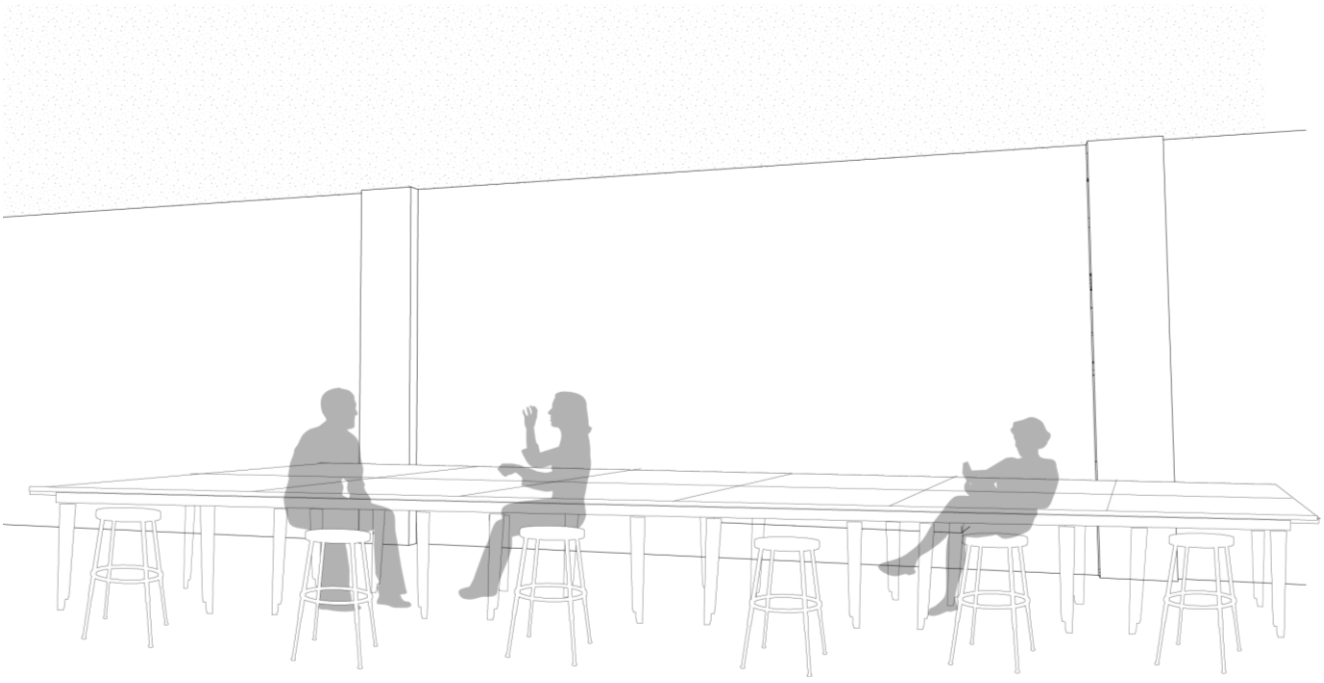


Figure 5.32 Same view of existing space

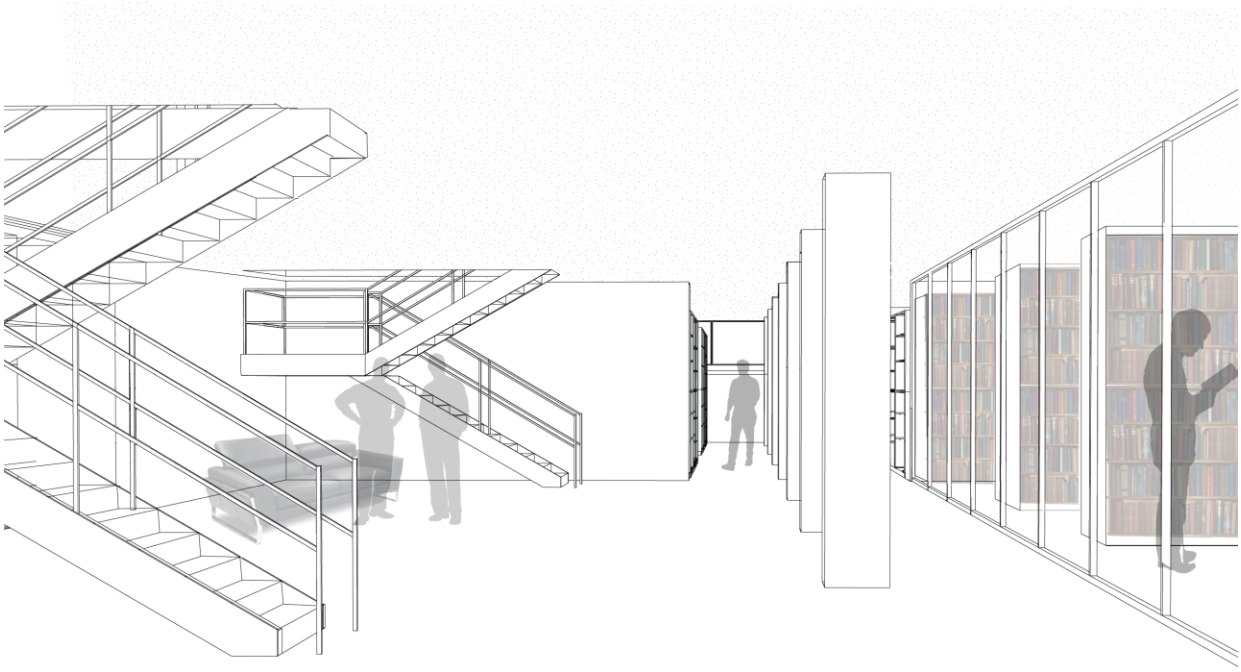


Figure 5.33 View of proposed design at bottom of main stairs

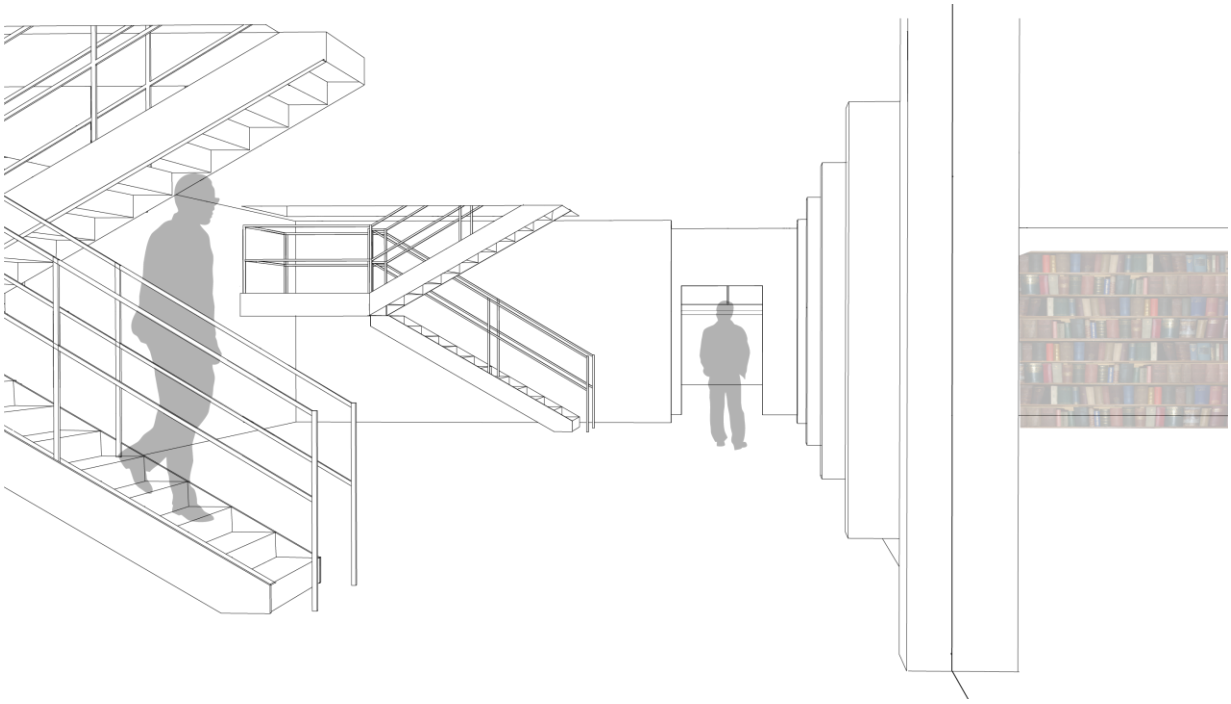


Figure 5.34 Same view of existing space

Figure 5.35 View of proposed design looking down faculty corridor

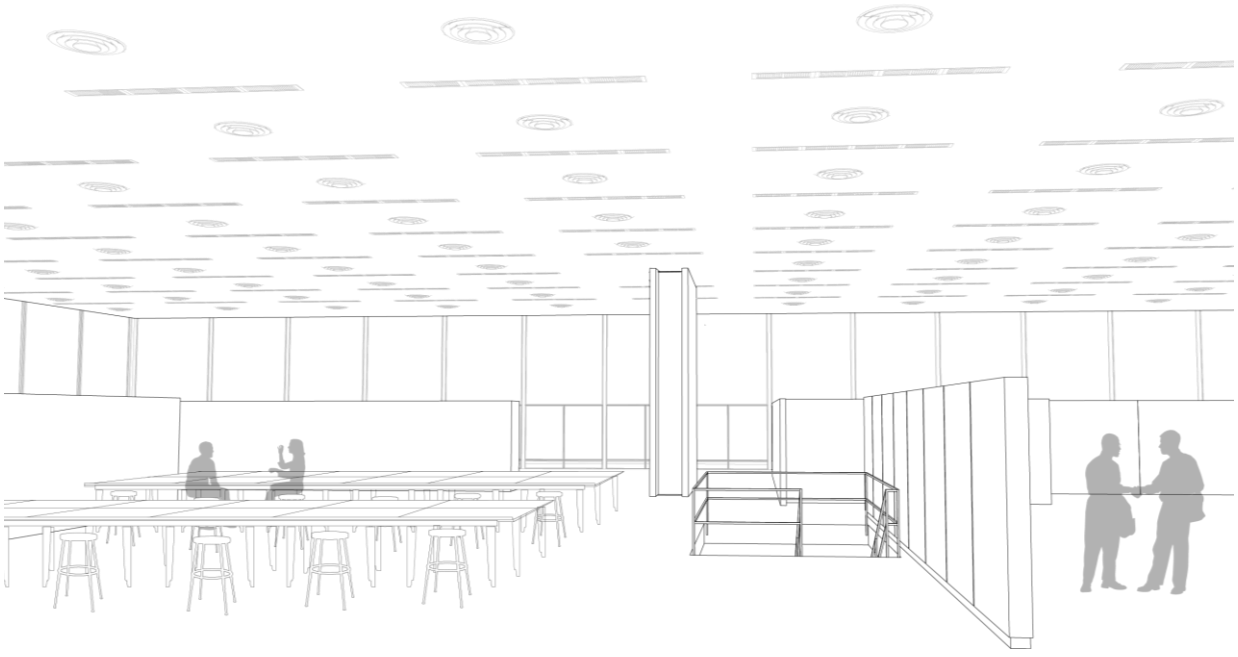


Figure 5.36 Same view of existing space

APPENDIX A

A BRIEF CRITIQUE ON RECENT CROWN HALL RENOVATIONS

Crown Hall underwent some interior renovations in 2013 when the new Dean of the school, Wiel Arets, believed a change needed to be made to the building's spatial construct to go along with his change in curriculum. Neither change has been well received, however. For whatever reason, Dean Arets made the decision to move his office along with the other administrative spaces to the main level of the building, placing them amongst the students within the studio space. The partitions that once served as lockers for the students have been removed and frosted glass partitions that imitate the look of the exterior façade were placed to enclose the offices, and in turn, take away from the space that Mies originally had intended just for students. Figures A.1 & A.2 show the before and after of this space.

Although the designers tried imitating some of the Miesian details in their work, the new spatial configurations do not respect the Miesian sense of space. The administration offices take away from the 'universal space' on the main level in that they have been randomly placed and do not contribute anything positive to the space. Their positioning within the building is therefore inappropriate and does not solve any of the pre-existing issues of the open hall. The valuable space taken away from the studios is also not being utilized in an efficient way within the administrative area. This can be seen in Figure A.3 where there is a good amount of wasted space within the enclosure. Even smaller details of the renovation that have been added are not Miesian, such as the curved railing of the west staircase shown in Figure A.4.

On the lower level of Crown Hall, the renovation designers sought to convert the originally somewhat closed off space into more of a 'universal space,' like what is seen on the main level. The space has been opened up and more spaces for collaboration and learning were created alongside the studio spaces (Figure A.3).

Figure A.10 Crown Hall main level before renovations

Figure A.11 Crown Hall main level after renovations

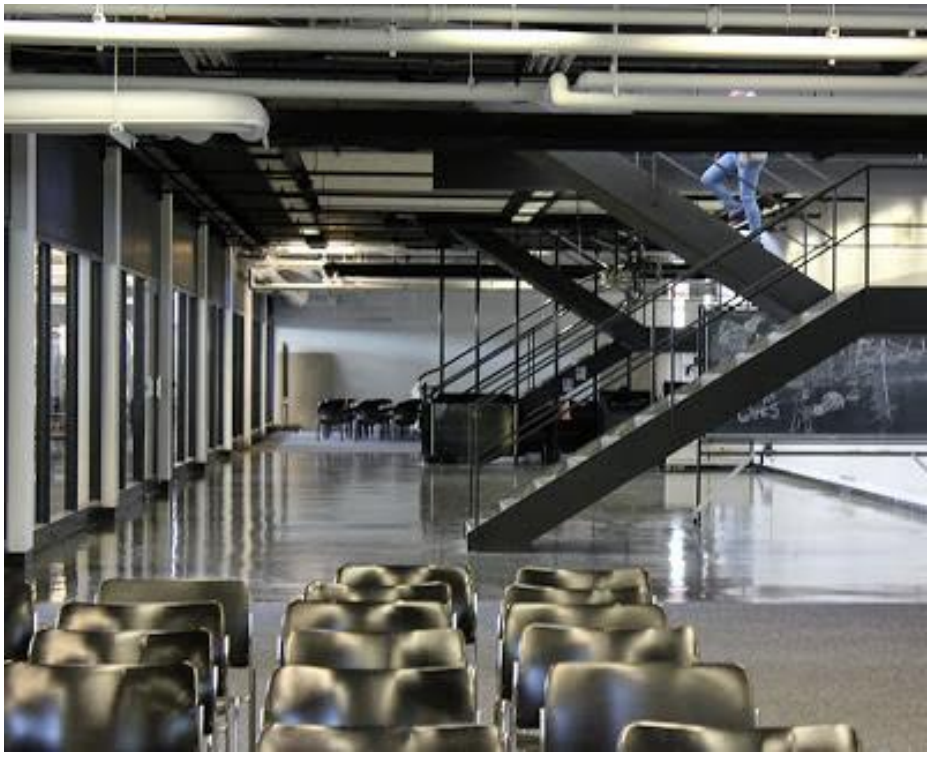


Figure A.12 Crown Hall lower level after renovations

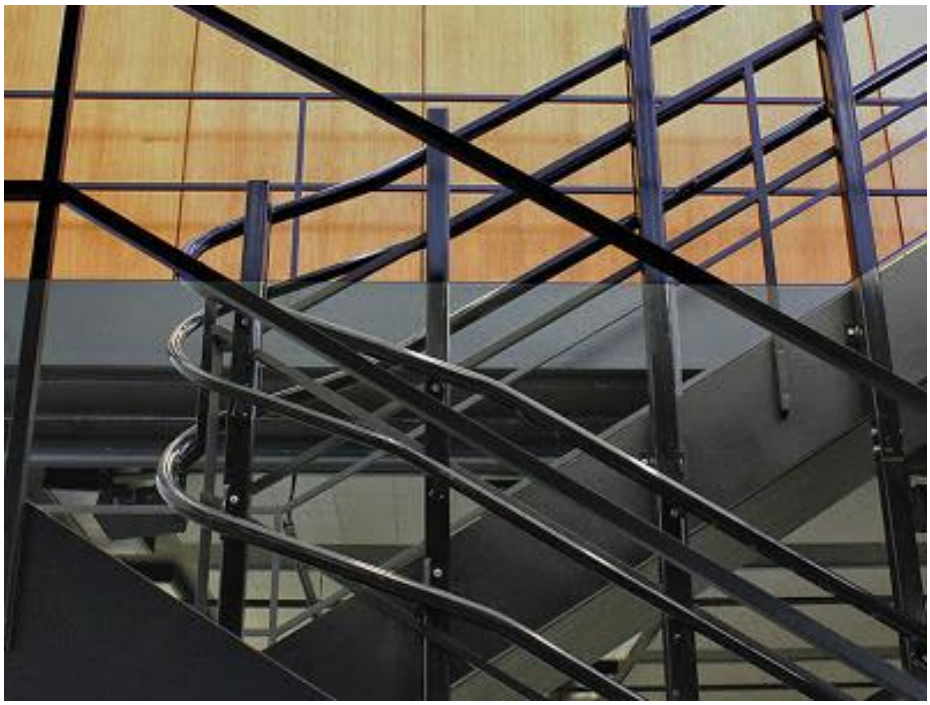


Figure A.13 Curved railings on west staircase

Figure A.14 New administrative space with a large amount of wasted space

The inherent issues of the open workspace have resulted in many complaints from the students that work within that space, however. Many claim the space is an acoustical nightmare and that that level of the building is not conducive to getting any kind of work done. A lot of students tend to do their work elsewhere as a result, which has had a dramatic effect on the studio culture in Crown Hall.

These new spaces inadequately accommodate the different ‘front stage’ and ‘back stage’ activities, which has left students unhappy and has had dire consequences on the architecture program at IIT as a whole. The designers obviously wanted to change the outdated model in a way they felt would improve the space, but without taking the needs of the building’s inhabitants into consideration, they have provided a space that is even less accommodating than was the pre-existing design.

APPENDIX B

ADDITIONAL ANALYSES

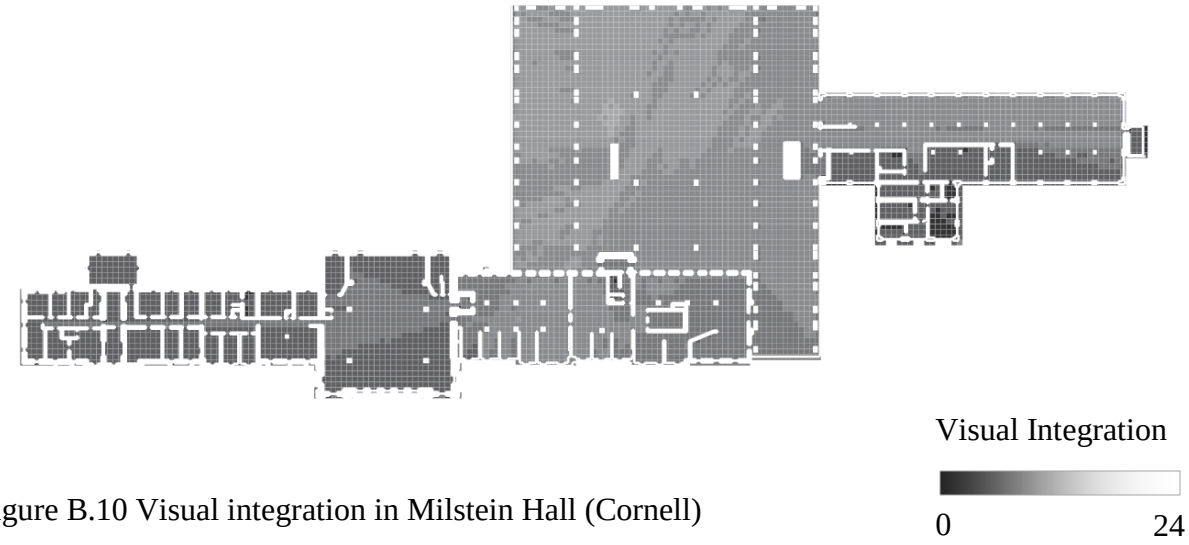


Figure B.10 Visual integration in Milstein Hall (Cornell)

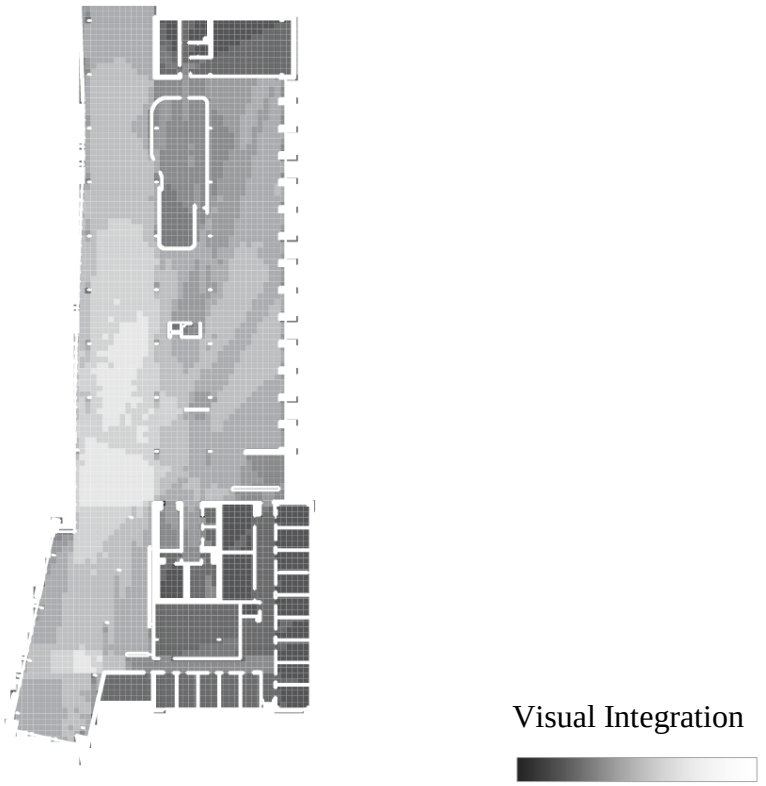


Figure B.11 Visual integration in proposed upper level plan

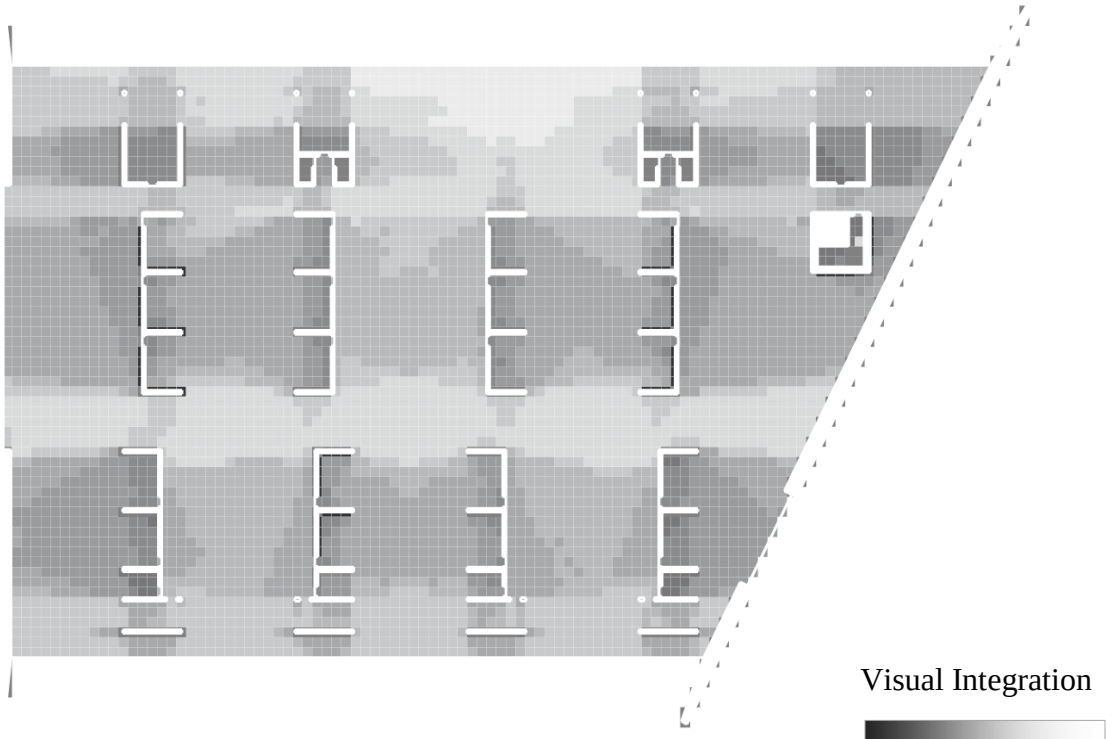


Figure B.12 Visual integration in Lee Hall (Clemson)

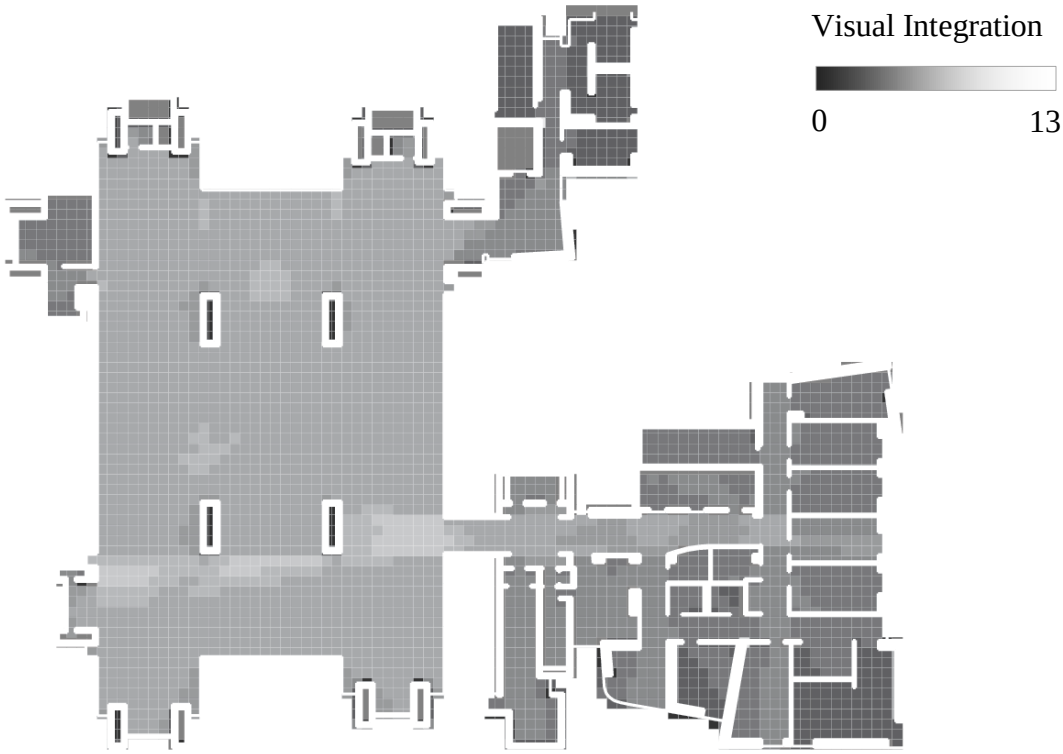
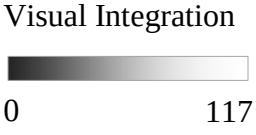


Figure B.13 Visual integration in the Art & Architecture Building (Yale)

Figure B.14 Visual integration in Gund Hall (Harvard)

Figure B.15 Visual integration in Burchard Hall (Virginia Tech)



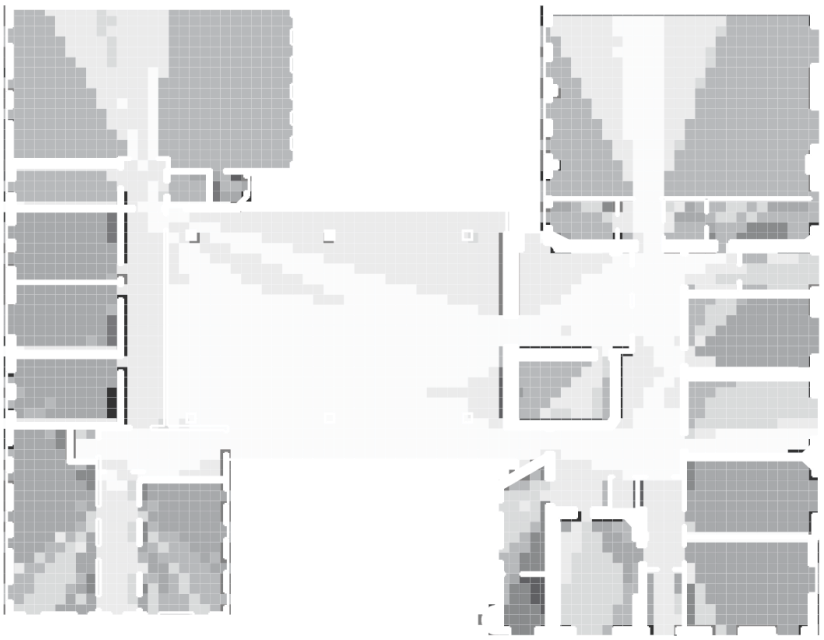


Figure B.16 Visual integration in Higgins Hall (Pratt Institute)

Visual Integration

0 70

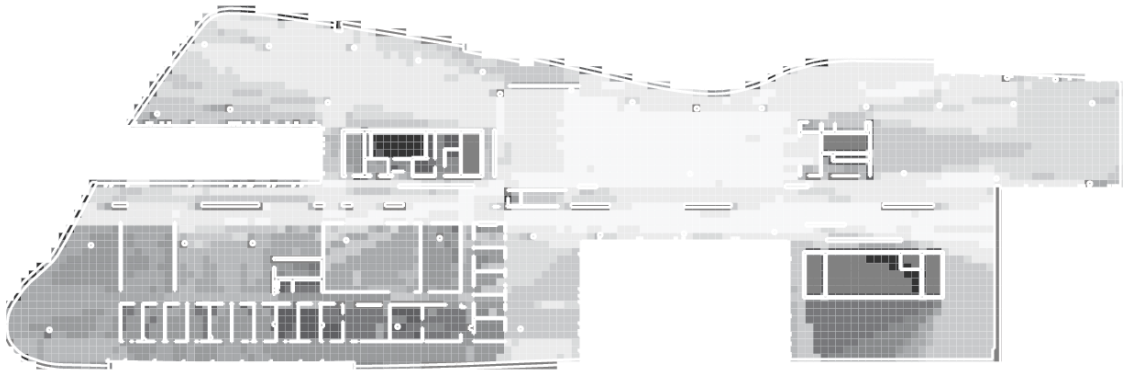


Figure B.17 Visual integration in Knowlton Hall (Ohio State)

Visual Integration

0 175

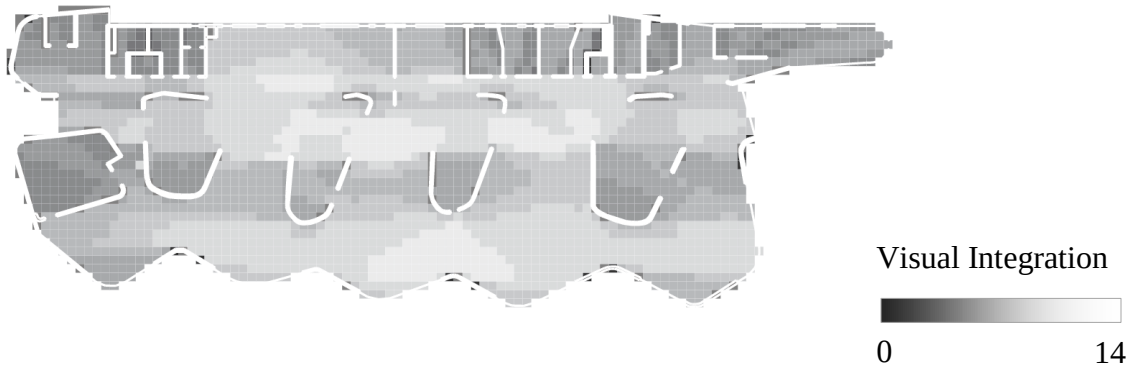


Figure B.18 Visual integration in the Abedian School of Architecture (Bond University)

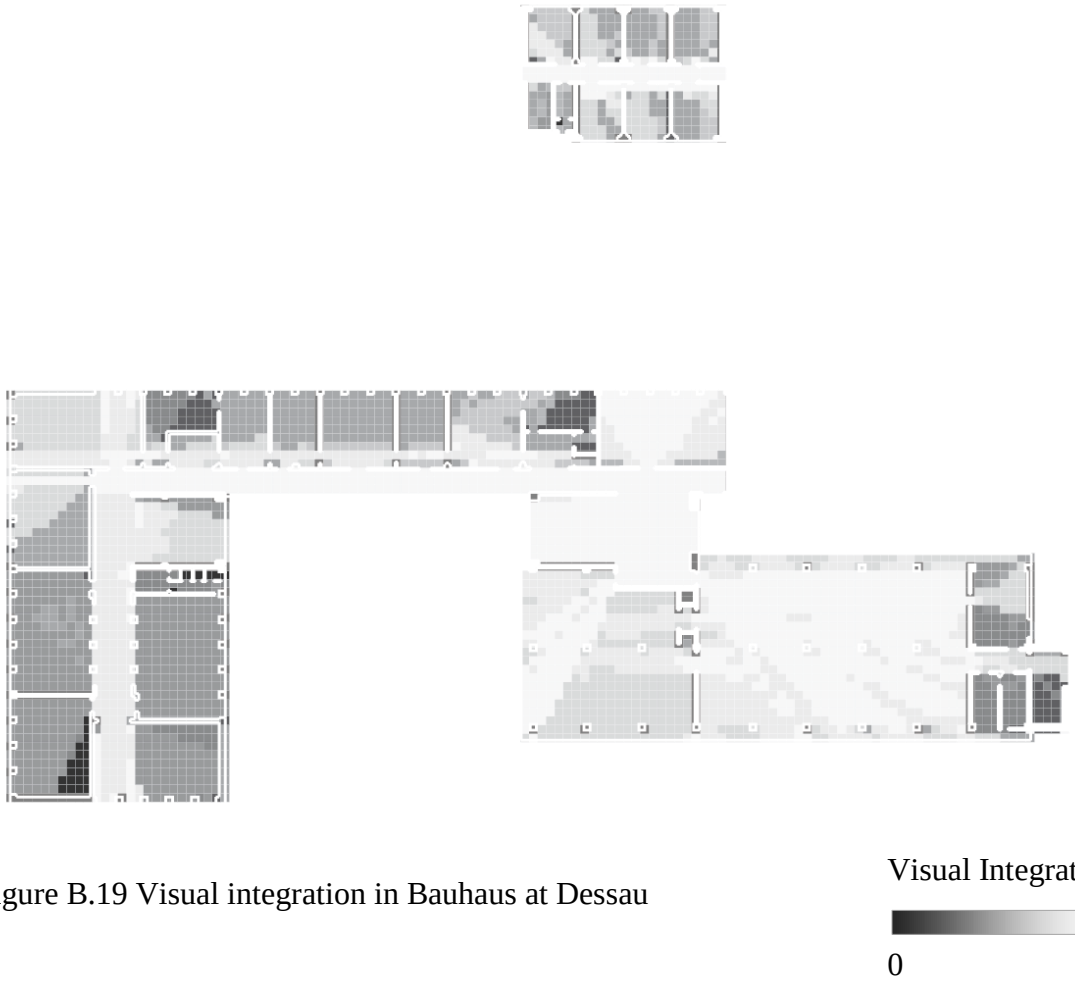


Figure B.19 Visual integration in Bauhaus at Dessau

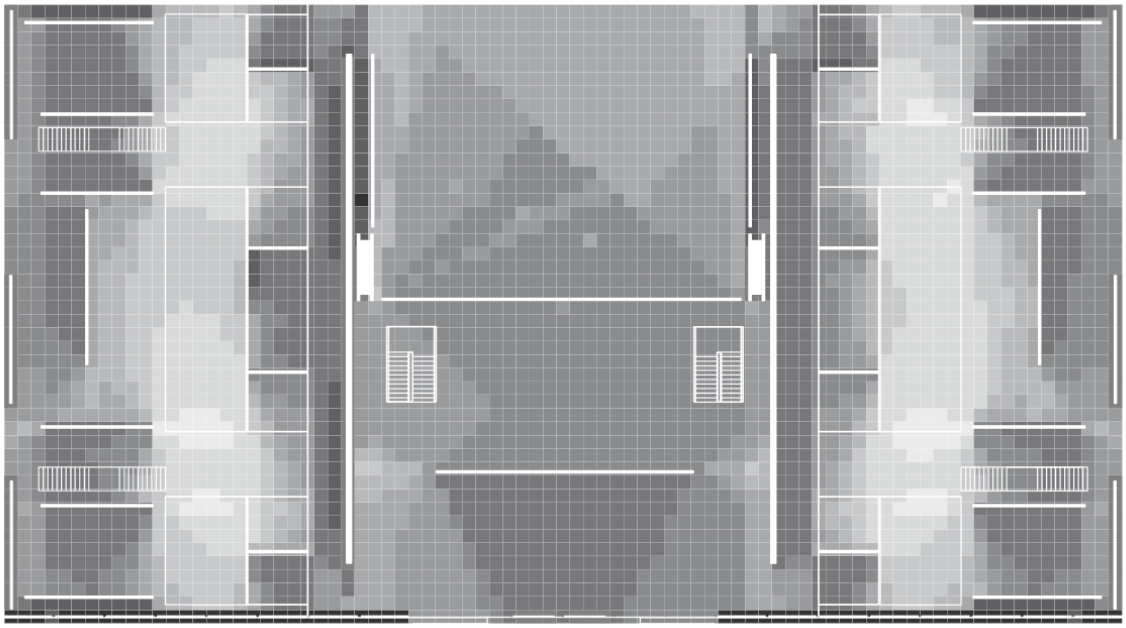


Figure B.20 Visual integration in proposed upper level plan

Visual Integration

0 19

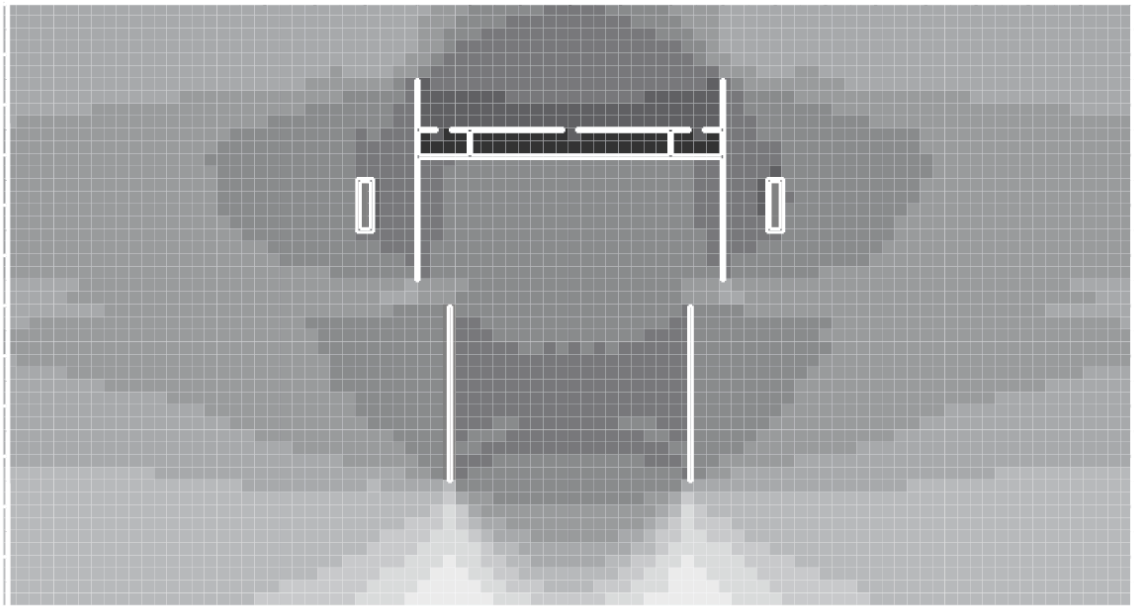


Figure B.21 Visual integration in existing upper level plan

Visual Integration

0 29

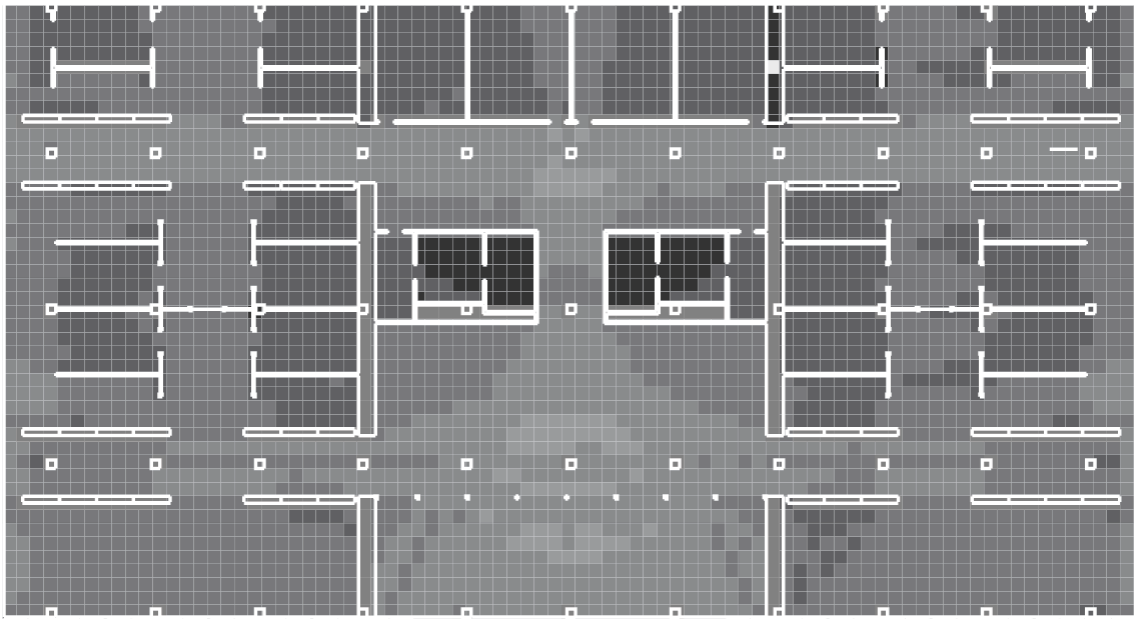


Figure B.22 Visual integration in proposed basement level plan

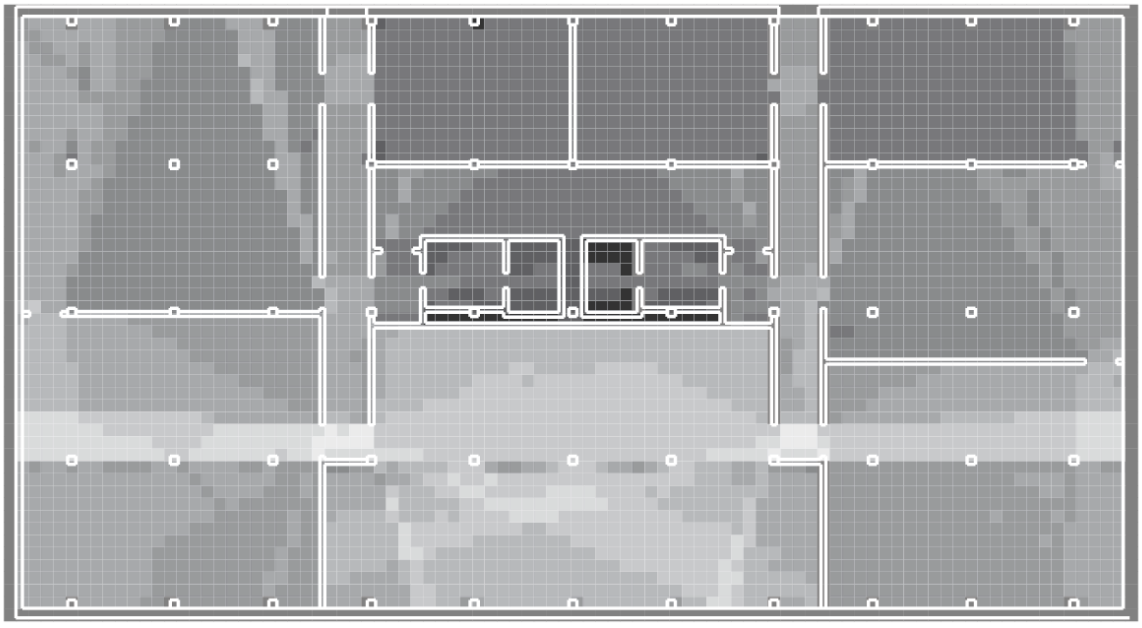


Figure B.23 Visual integration in existing lower level plan

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